Sunshine Act Meetings

Federal Register
Vol. 49, No. 200
Monday, October 15, 1984

This section of the FEDERAL REGISTER contains notices of meetings published under the "Government in the Sunshine Act" (Pub. L. 94-409) 5 U.S.C. 552b(e)(3).

CONTENTS

1

CONSUMER PRODUCT SAFETY COMMISSION

TIME AND DATE: 10:00 a.m., Wednesday, October 17, 1984.

LOCATION: Third Floor Hearing Room, 1111—18th Street, NW., Washington, D.C.

STATUS: Open to the Public.

MATTERS TO BE CONSIDERED:

1. Older Consumers: Final Report

The staff will brief the Commission on a final report on the Fiscal Year 1984 priority project on Safety for Older Consumers.

2. FHSA Conspicuousness Labeling Rule: Final

The staff will brief the Commission on amendments to the type size, placement, and conspicuousness requirements for labeling under the Federal Hazardous Substances Act.

FOR A RECORDED MESSAGE CONTAINING THE LATEST AGENDA INFORMATION, CALL: 301—492–5709.

CONTACT PERSON FOR ADDITIONAL INFORMATION: Sheldon D. Butts, Office of the Secretary, 5401 Westbard Ave., Bethesda, Md. 20207, 301—492–6800.

October 10, 1984.

Sheldon D. Butts,

Deputy Secretary.

[FR Doc. 84-27210 Filed 10-11-84; 10:59 am]

BILLING CODE 6355-01-M

2

CONSUMER PRODUCT SAFETY COMMISSION

TIME AND DATE: See Times Below, Thursday, October 18, 1984.

LOCATION: Third Floor Hearing Room, 1111—18th Street, NW., Washington, D.C.

STATUS: Open to the Public.

MATTERS TO BE CONSIDERED:

1. Commission Staff Briefing—8:30 a.m.

The staff will brief the Commission on various matters.

Closed to the Public.

2. Compliance Status Report—10:00 a.m.

The staff will brief the Commission on a compliance status report.

FOR A RECORDED MESSAGE CONTAINING THE LATEST AGENDA INFORMATION, CALL: 301–492–5709.

CONTACT PERSON FOR ADDITIONAL INFORMATION: Sheldon D. Butts, Office of the Secretary, 5401 Westbard Ave., Bethesda, Md. 20207, 301–492–6800.

October 10, 1984.

Sheldon D. Butts,

Deputy Secretary.

[FR Doc. 84-27211 Filed 10-11-84; 10:59 am]

BILLING CODE 6355-01-M

3

FEDERAL DEPOSIT INSURANCE CORPORATION

Agency Meeting.

Pursuant to the provisions of the "Government in the Sunshine Act" (5 U.S.C. 552b), notice is hereby given that at 5:20 p.m. on Wednesday, October 10, 1984, the Board of Directors of the Federal Deposit Insurance Corporation met in closed session, by telephone conference call, to (1) receive bids for the purchase of certain assets of and the assumption of the liability to pay deposits made in The Rexford State Bank, Rexford, Kansas, which was closed by the Kansas State Bank Commissioner on Wednesday, October 10, 1984; (2) accept the bid for the transaction submitted by Peoples State Bank of Rexford, Rexford, Kansas, a newly-chartered State nonmember bank subsidiary of JEST, Inc., Oakley, Kansas; (3) adopt an order approving the applications of Peoples State Bank of Rexford, Rexford, Kansas, for Federal deposit insurance, and for consent to purchase certain assets of and to assume the liability to pay deposits made in The Rexford State Bank, Rexford, Kansas; and (4) provide such financial assistance, pursuant to section 13(c)(2) of the Federal Deposit Insuance Act (12 U.S.C. 1823(c) (2)), as was necessary to effect the purchase and assumption transaction.

In calling the meeting, the Board determined, on motion of Chairman William M. Isaac, seconded by Director C. T. Conover (Comptroller of the Currency), concurred in by Director Irvine H. Sprague (Appointive), that Corporation business required its consideration of the matters on less than seven days' notice to the public; that no earlier notice of the meeting was practicable; that the public interest did not require consideration of the m atters in a meeting open to public observation; and that the matters could be considered in a closed meeting pursuant to subsections (c) (8), (c) (9) (A) (ii), and (c)(9)(B) of the "Government in the Sunshine Act" (5 U.S.C. 552b (c)(8), (c)(9)(A)(ii), and (c)(9)(B)).

Dated: October 11, 1984.

Federal Deposit Insurance Corporation.

Alan J. Kaplan,

Deputy Executive Secretary.

[FR Doc. 84-27255 Filed 10-11-84; 3:18 pm]

BILLING CODE 6714-01-M

4

FEDERAL HOME LOAN BANK BOARD

"FEDERAL REGISTER" CITATION OF PREVIOUS ANNOUNCEMENT: Vol. No. 49, Page No 39636, Date Published—Tuesday, October 9, 1984.

PLACE: In the Board Room, 6th Floor, 1700 G St., NW., Washington, D.C.

STATUS: Open meeting.

CONTACT PERSON FOR MORE INFORMATION: Ms. Gravlee, (202–377–6677).

CHANGES IN THE MEETING: The following item has been withdrawn from the open portion of the Bank Board Meeting scheduled Monday, October 15, 1984, at 10:00 a.m.

Inclusion of Subordinated Debt as Regulatory Net Worth

J.J. Finn,

Secretary.

No. 97, October 11, 1984.

[FR Doc. 84-27250 Filed 10-11-84; 3:18 pm]

BILLING CODE 6720-01-M

5

NATIONAL CREDIT UNION ADMINISTRATION

Change in subject of meeting.

The National Credit Union Administration Board determined that its business required that the previously announced open meeting on October 9,

1984 include an additional item, which was opened to public observation:

Central Liquidity Facility Fourth Quarter Dividend

The previously announced items were:

1. Approval of Minutes of Previous Open Meeting.
2. Review of Central Liquidity Facility Lending Rate.
3. Final Rule: Implementing the NCUSIF Capitalization Legislation.
4. Consideration of the Operating Fee for Calendar Year 1985.

The meeting was held at 9:40 a.m., in the Filene Board Room, 7th Floor, 1776 G Street, NW., Washington, D.C.

FOR MORE INFORMATION CONTACT:
Rosemary Brady, Secretary of the Board. Telephone (202) 357–1100.

Rosemary Brady,

Secretary of the Board.

[FR Doc. 84–27214 Filed 10–11–84; 10:58 am]

BILLING CODE 7535–01–M

Federal Register

Monday
October 15, 1984

Part II

Environmental Protection Agency

40 CFR Part 86

Control of Air Pollution From New Motor Vehicles and New Motor Vehicle Engines: Gaseous Emission Regulations for 1987 and Later Model Year Light-Duty Vehicles, Light-Duty Trucks, and Heavy-Duty Engines; Particulate Emission Regulations for 1987 and Later Model Year Heavy-Duty Diesel Engines; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 86

[AMS-FRL-2616-4]

Control of Air Pollution From New Motor Vehicles and New Motor Vehicle Engines: Gaseous Emission Regulations for 1987 and Later Model Year Light-Duty Vehicles, Light-Duty Trucks, and Heavy-Duty Engines; Particulate Emission Regulations for 1987 and Later Model Year Heavy-Duty Diesel Engines

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of proposed rulemaking.

SUMMARY: This notice proposes that the following new standards be established for emissions of oxides of nitrogen: 1.2 or 1.7 grams per mile, depending on vehicle weight, for 1987 and later model year light-duty trucks (at both low and high altitude); 6.0 grams per brake horsepower-hour for 1987 and later model year heavy-duty engines; and 4.0 grams per brake horsepower-hour for 1990 and later model year heavy-duty engines. In addition, the following new particulate emission standards are proposed for heavy-duty diesel engines: For 1987 and later model years, 0.60 gram per brake horsepower-hour at low altitude and 0.72 gram per brake horsepower-hour at high altitude; and for 1990 and later model years, 0.25 gram per brake horsepower-hour at low altitude and 0.30 gram per brake horsepower-hour at high altitude. High-altitude standards for idle carbon monoxide of 0.50 percent of exhaust gas flow, and for particulate of 0.26 gram per mile for 1987 and later model year light-duty trucks, are also proposed. This action also proposes that an averaging program for heavy-duty diesel particulate emissions be implemented in the 1990 model year. Revisions to the allowable maintenance provisions applicable to light-duty vehicles and trucks and heavy-duty engines, and to the heavy-duty engine test procedure, are also proposed; these revisions would be effective for the 1987 model year. Finally, two technical corrections to the regulations promulgated on November 16, 1983 are proposed.

This proposal responds to mandates contained in the Clean Air Act Amendments of 1977, and to the environmental need for additional control of diesel particulate and oxides of nitrogen emissions. The proposal would hold 1995 emissions of these pollutants to approximately 1980 levels, thereby preventing deterioration in national air quality.

DATES: EPA will conduct public hearings on this Notice of Proposed Rulemaking on Monday, November 12, 1984 in Ann Arbor, Michigan, and on Wednesday, November 14, 1984 in Denver, Colorado. The first hearing will continue through Tuesday, November 13, 1984 if additional time is needed. The hearings will be convened at 9:00 a.m. and will adjourn at 5:00 p.m., or such later time as may be necessary for the completion of testimony. Comments on this proposal will be accepted until 30 days after the second public hearing (Friday, December 14, 1984). Additional information on the submission of comments and the public hearings can be found under the heading "Public Participation," in the Supplementary Information section of this Notice.

ADDRESSES: The first public hearing will be held in the Conference Room of the Environmental Protection Agency Motor Vehicle Emissions Laboratory, 2565 Plymouth Road, Ann Arbor, MI 48105. The second hearing will be held in the Rm. 504, U.S. District Court House, 1929 Stout Street, Denver, CO 80294.

Interested parties may submit written comments (in duplicate if possible) to Public Docket No. A-80-18, at: Central Docket Section (A-130), Environmental Protection Agency, Attention: Docket No. A-80-18, 401 M Street, SW., Washington, D.C. 20460.

Materials relevant to this rulemaking, including the Draft Regulatory Impact Analysis (which also satisfies the requirements of section 202(a)(3)(E) of the Clean Air Act for a NO_x Pollutant Specific Study), have been placed in Docket No. A-80-18 by EPA. The docket is located at the above address in the West Tower Lobby, Gallery I, and may be inspected between 8 a.m. and 4 p.m. on weekdays. A reasonable fee may be charged by EPA for copying of docket materials.

Note.—As detailed in the Supplementary Information section, this Notice of Proposed Rulemaking incorporates two previous rulemaking actions. For this reason, Docket No. A-80-31 (established in support of the Advance Notice of Proposed Rulemaking for oxides of nitrogen standards for heavy-duty engines) has been incorporated into Docket No. A-80-18 (established in support of the Notice of Proposed Rulemaking for particulate standards for heavy-duty diesel engines). Further submissions to either of these dockets should all be directed to Docket No. A-80-18, at the address given above.

FOR FURTHER INFORMATION CONTACT: Mr. Terry P. Newell (SDSB-12), U.S. Environmental Protection Agency, Emission Control Technology Division, 2565 Plymouth Road, Ann Arbor, MI 48105, Telephone: (313) 668-4462.

SUPPLEMENTARY INFORMATION:

I. Development of the Proposal

Today's proposal is based upon specific statutory requirements found in the Clean Air Act as amended in 1977, and specific environmental problems related to emissions of nitrogen oxides (NO_x) and particulate matter. The statutory requirements and environmental needs will be described first, followed by a review of related actions already taken by EPA and of the chief alternatives considered in arriving at the final form of the proposal.

A. Statutory Requirements

1. Heavy-Duty Diesel Particulate Emissions

Section 202(a)(3)(A)(iii) of the Act directs the Administrator of EPA to establish standards for the emissions of particulate matter from heavy-duty diesel engines. According to that section, regulations are to require "the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available * * * giving appropriate consideration to the cost * * * and to noise, energy, and safety factors associated with the application of such technology." The Act further provides that these standards be implemented beginning in 1981, or any earlier practicable model year, taking effect as expeditiously as possible considering the period necessary for compliance.

This statutory description corresponds to what are generally referred to as "technology-forcing" standards. That is, they are to be based upon that technology which the Administrator determines *will* be available, and not necessarily that technology which is *already* available. The adoption of such standards helps to encourage and hasten the development of new technology. The precise definition of the greatest degree of reduction which will be available in this case includes "appropriate" consideration of cost and other factors. Thus, as will be seen, careful evaluation of the cost impacts of alternative technologies must be made before arriving at a decision on what standard to propose.

A final note on the statute concerns the model year provision in this section. This clearly presents a dilemma to EPA.

since the original compliance date of 1981 has already passed while standards have yet to be promulgated. EPA sees its present task as implementing particulate standards as soon as possible, while allowing manufacturers the necessary amount of time to reach compliance.

2. Heavy-duty Engine NO_x Emissions

Provisions for the control of NO_x emissions from heavy-duty engines are also found in Section 202(a)(3)(A) of the Act. Paragraph (a)(3)(A)(ii) calls for reducing NO_x emissions from heavy-duty engines by at least 75 percent from baseline levels of gasoline engines by the 1985 model year. This provision is modified, however, by two other provisions providing limited flexibility to the Agency in establishing NO_x standards. The first is paragraphs (a)(3)(B)–(D), which allow the temporary revision of the 75 percent reduction standard if compliance cannot be achieved without increasing cost or decreasing fuel economy to an "excessive and unreasonable degree." If this threshold requirement is met, the revised standard must then be based upon "the maximum degree of emission reduction which can be achieved by means reasonably expected to be available." The Administrator must report his findings to the Congress, analyzing health effects, cost-effectiveness, ongoing research and development programs of the manufacturers, and the relative costs and fuel economy impacts of the revised standards. In addition, the Administrator's findings must not be "substantially contrary" to any findings of the National Academy of Sciences.

Paragraph (a)(3)(B) further provides that any revised standard under this paragraph must be promulgated with four years of leadtime, and apply for only a three-year period. Following that, further reductions in emissions must be required. Under the timetable provided for in the Act, any determination of need for revised standards was to have taken place in the period from June 1 through December 31, 1980, and every third year thereafter.

The second provision for modification of the 75 percent reduction standard is paragraph (a)(3)(E), which allows the Administrator to change the standard based upon, (1) continuing pollutant specific studies of the effects of NO_x emissions from heavy-duty engines and other sources on "the public health and welfare," and (2) such other information available to him. While such a revision is subject to the same requirement for four model years of leadtime as a revision based upon technology, it is not restricted to a three-year period of applicability, and can therefore be a permanent change. In addition, revisions under paragraph (a)(3)(E) may be implemented at any time.

In summary, then, the Act calls for a 75 percent NO_x reduction standard unless temporarily revised due to cost or fuel economy reasons, or changed due to studies on the effect of emission on the public health and welfare, or other such information. The Act required such standards to be promulgated, with four years of leadtime, for the 1985 model year. Clearly, while four years of leadtime could still be provided, it is no longer possible to have revised standards in place for vehicles or engines manufactured in 1985. In this situation, EPA believes it appropriate to implement revised standards with less than four years of leadtime, in order to have them take effect as soon as possible after 1985, provided that such standards allow adequate time for compliance by the manufacturers. This conclusion is based on Congress' clear desire to have standards in place by 1985 (which is now impossible), as well as its apparent intent to provide manufacturers adequate leadtime to meet any standard different from the 75 percent reduction standard. Thus, if a standard is developed which is clearly attainable in less than four years, it would be inappropriate and unnecessary to delay its implementation beyond the period actually needed for compliance.

This approach might at first appear to be an attempt to shift the burden of a failure by EPA to adopt standards in time for 1985 from the Agency to the manufacturers. This is, however, not the case. The manufacturers have already benefited from a two-year delay in any new standard. Their need for adequate leadtime will be fully considered in the standards and model years for implementation which EPA eventually adopts.

NO_x standards for light-duty trucks are also included in today's proposal. This is because some light-duty trucks are included in the Act's definition of heavy-duty vehicles. The Act includes as "heavy-duty" all vehicles having a gross vehicle weight greater than 6,000 lbs. On the other hand, EPA's light-duty truck class includes all trucks up to 8,500 lbs gross vehicle weight. Those light-duty trucks with gross vehicle weights between 6,001 and 8,500 lbs are considered "heavy-duty" for purposes of the Act, and thus are subject to the 75 percent reduction requirement discussed above. In addition, standards for light-duty trucks with gross vehicle weights up to 6,000 lbs are being proposed under the general standard-setting authority of section 202(a) (1) and (2). This statutory provision does not mandate any specific percentage of emission reduction, but it does require that adequate leadtime be provided, "giving appropriate consideration to the cost of compliance."

B. Environmental Need

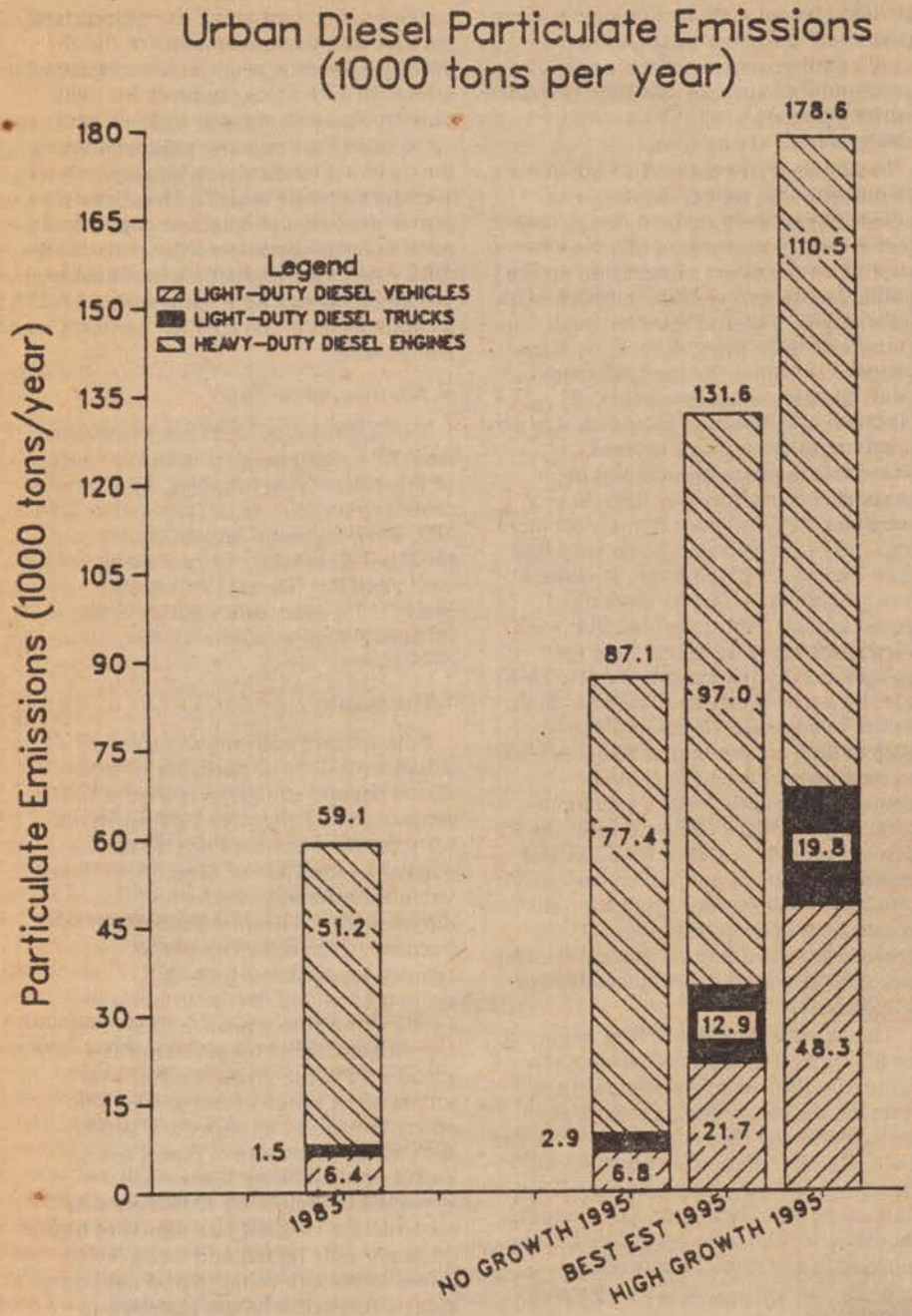
The following information is extracted from EPA analyses performed in support of this rulemaking proposal. Interested readers may refer to the particulate and NO_x environmental impact chapters of the Draft Regulatory Impact Analysis, as well as to the "Diesel Particulate Study" [1] for more information. Both documents are available in the public docket.

1. Particulate

Both current and estimated future urban emissions of particulate from diesel engines are given in Figure 1. The projections for the year 1995 are given for a range of assumptions about the market penetration of diesel light-duty vehicles, light-duty trucks and heavy-duty vehicles. This has been done because of the sensivity of the projections to diesel growth assumptions and the uncertainty that exists about future growth. It is clear from Figure 1 that regardless of the amount of future growth, significant increases in urban diesel particulate emissions are to be expected. Under EPA's best estimates of diesel sales, diesel particulate emissions are expected to double by 1995 if no new controls are enacted (standards of 0.20 gram per mile (g/mi) and 0.26 g/mi for diesel light-duty vehicles and light-duty trucks, respectively, are assumed to begin in 1987). Figure 1 also indicates that heavy-duty diesel engines play the dominant role in the overall emission picture. Heavy-duty diesels will contribute some 74 percent of total diesel particulate emissions in 1995 under best estimate sales projections.

[1] Diesel Particulate Study, U.S. EPA, OAR, OMS, ECTD.

Figure 1



The impact of these emissions on ambient air quality is significant. Current levels of diesel particulate emissions are estimated to contribute about 1 to 3 $\mu g/m^3$ of fine suspended particulate matter in urban areas. These concentrations will grow to about 2 to 8 $\mu g/m^3$ in 1995 under best estimate projections. Such increased concentrations are of serious concern considering the already widespread degree of nonattainment of the national ambient air quality standards for total suspended particulate matter. There are currently (1983) 190 nonattainment areas for the primary air quality standard. Under the Agency's proposed change to an inhalable particulate standard based upon material under 10 micrometers in diameter (49 FR 10408, March 20, 1984), the situation will be similar, with 71 to 246 counties currently projected to exceed the range of possible standards. The 1995 diesel particulate emissions will by themselves contribute 3 to 15 percent of the potential new standard under best estimate growth conditions. Thus additional control of diesel particulate emissions, beyond the existing 1987 light-duty diesel standards, is needed in order to move toward compliance with the proposed new ambient air quality standards.

There are also other factors acting to increase EPA's concern about diesel particulate emissions. Diesel particulate matter is all inhalable, unlike most sources of particulate emissions, which usually have a large fraction of larger, settleable particulate matter. In fact, diesel particulate falls almost exclusively in the size range known as fine particulate (less than 2.5 micrometers). Diesel particulate is also emitted near ground level directly into the breathing zone, giving it a proportionately greater impact on ambient concentrations. Particulate emissions from elevated smoke stacks or remote, non-urban locations are highly dispersed before reaching ground level in urban areas.

There is also a small potential cancer risk associated with inhalation of diesel particulate matter. EPA's assessment of the lung cancer risk over a wide range of assumptions, which is included in the Draft Regulatory Impact Analysis, indicates a risk factor between one and 6 per million in 1995. This risk represents between 2 and 8 percent of the current non-smoker risk of contracting lung cancer in the U.S.

Lastly, diesel particulate affects atmospheric visibility and soiling. EPA estimates for 1995 indicate a 21 percent reduction in visibility in the largest U.S. cities due to diesel particulate compared to the mid-1970's, a discernible degree of change. A 3 to 8 percent reduction is expected in smaller cities. The Agency's analysis of soiling effects indicates the potential for a greater than average impact from diesel particulate because of its low reflectivity and oily nature. However, even if it is assumed to be no worse than average, there still appears to be a significant economic cost associated with soiling caused by diesel particulate.

Overall, EPA believes that emissions of diesel particulate are a serious environmental concern. In order to deal effectively with this problem, significant reductions in emission rates from heavy-duty diesel engines are essential. It will

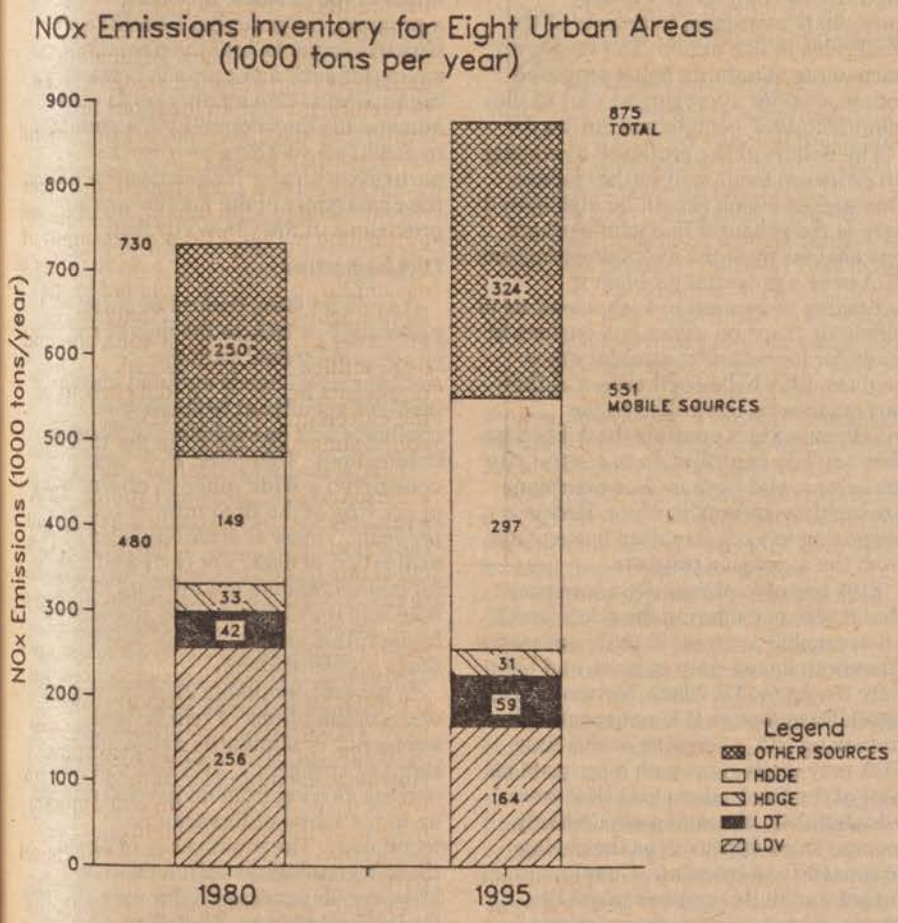
take over a 50 percent reduction in engine emission rates simply to prevent future growth in total emissions between 1983 and 1995.

2. Nitrogen Oxides

In analyzing NO_x emissions, EPA has focused on those locations most likely to be adversely affected. Eight urban areas were identified with ambient NO_2 levels within 25 percent of the ambient air quality standards. Projected NO_x emissions for these eight areas are shown in Figure 2. In these projections, point source emissions have been "discounted" to account for their relatively lower air quality impact compared to ground level sources.

The declining role of light-duty vehicle emissions is readily apparent in Figure 2, reflecting the impact of the 1.0 g/mi light-duty vehicle NO_x standard. However, comparison of the total emissions for mobile sources indicates that overall there will be growth in emissions from 1980 to 1995. Some of this growth comes from light-duty trucks, but most of it is due to increased heavy-duty diesel engine emissions. By 1995, heavy-duty diesels are expected to account for over one-third of the entire discounted NO_x inventory. Thus, as with particulate, control of heavy-duty diesel engines is central to the control of NO_x emissions. In fact, even with the reductions already expected for light-duty vehicles, the only way to offset growth in the other categories and keep total discounted emissions from increasing would be to hold heavy-duty diesel emissions to 1980 levels. It is also worth noting that emissions from heavy-duty gasoline engines are stable (actually declining slightly over the period), even without further control. This fact is due to the decline in sales expected for heavy-duty gasoline engines.

Figure 2



Current ambient levels of NO_2 are largely in compliance with the ambient air quality standards. However, the growth in emissions expected in future years will change that picture. While only one non-California urban area exceeded the NO_2 standards in 1980, five are projected to do so by 1995. Thus while current NO_x emission levels may be considered almost sufficient to attain the air quality standards, steps need to be taken to avoid future deterioration and non-compliance with the standards. In addition, there may or may not be environmental benefits associated with NO_x reductions beyond issues of NO_2 attainment. As has just been seen, control of heavy-duty diesel engines will be an essential element for success.

During the development of today's proposal, questions have been raised with respect to the accuracy of the NO_x emission projections cited above. EPA recognizes that uncertainties are inherent in projecting future emission imventories, and that these uncertainties increase when using projected emission inventories to project NAAQS attainment status. The NO_x emission projections used in the preceding discussion, and the emission projections and corresponding air quality impacts discussed in the environmental impact section of today's notice, are based on EPA's best estimates of the input assumptions at the time that the analyses were performed. However, EPA solicits comments on the assumptions and methodology used for its air quality projections.

C. Prior Related EPA Actions

Neither the statutory requirements nor the environmental questions described above represent new issues for EPA. Rather, today's proposal grows out of past actions taken to address these same needs.

A proposal for heavy-duty diesel particulate control was published on January 7, 1981 (46 FR 1910). That notice proposed that a particulate emission standard of 0.25 grams per brake horsepower hour (g/BHP-hr be implemented for heavy-duty diesels in the 1986 model year. This standard was expected to require the application of particulate trap technology to heavy-duty diesels, similar in concept to traps being developed for light-duty diesels. The proposal also included appropriate test procedures for particulate sampling based upon the new EPA transient test requirement.

At about the same time, EPA published an advance notice of proposed rulemaking announcing its intent to promulgate revised NO_x

emission standards for heavy-duty engines and light-duty trucks (46 FR 5838, January 19, 1981). The standards discussed in the notice were 1.2 g/mi for light-duty trucks and 4.0 g/BHP-hr for heavy-duty engines. Strickly speaking, neither of these standards corresponded to the 75 percent reduction requirement of section 202(a)(3)(A)(ii). The light-duty truck standard at that level would have been 0.9 g/mi, while the heavy-duty engine standard would have been 1.7 g/BHP-hr. As discussed in the advance notice, the 1.2 g/mi standard was chosen to provide a standard of equal stringency to the existing 1.0 g/mi light-duty vehicle NO_x standard, while the 4.0 g/BHP-hr standard was identified as the lowest standard applicable for heavy-duty diesels under the revision provisions of section 202(a)(3)(B).

Publication of these two notices produced a considerable degree of public response, and while no further regulatory action has been taken until today's proposal, EPA has remained active in its efforts to resolve the complex issues associated with NO_x and particulate control. A public hearing on both the particulate proposal and the NO_x advance notice was held in July 1982. More recently, EPA has engaged in an information gathering effort to gain a fuller understanding of the potential of both current and future technology to control NO_x and particulate from heavy-duty diesel engines. Comments received at and subsequent to the hearing, as well as all prior comments to EPA, are available in the public docket. All these comments and other information were reviewed in formulating the alternatives considered by EPA in deciding the final form of today's proposal.

EPA's decision to combine the particulate and NO_x actions into a single proposal rests in part on the similar timing of the two programs, but even more importantly on the technological interactions between particulate and NO_x control. Some technologies used to control diesel NO_x emission tend to increase particulate emissions. Therefore, the setting of these standards is best done in concert so that the tradeoffs can be dealt with and so that manufactures have a unified set of requirements to meet.

In addition to its information gathering actions, EPA has conducted a comprehensive study of the entire diesel particulate issue, both light- and heavy-duty [1]. This study carefully reexamines both the costs and environmental impacts of light-duty and heavy-duty particulate control in light of the evolution of control technology which has taken place since 1980, the changing role projected for diesel engines in the vehicle fleet, the interactions between NO_x and particulate control, and the new data on cancer-related health effects of diesel particulate. It also analyzes the feasibility and possible timing of various combinations of particulate and NO_x standards covering a board range of stringency.

Today's proposal contemplates the use of emissions averaging to measure compliance with particulate standards. EPA has previously evaluated averaging for particulate emissions in the light-duty area, and has concluded that averaging can be used there to reduce the cost of complying with emission standards without significant environmental penalty. (For a full discussion of these issues, see 48 FR 33456, July 21, 1983.) EPA views the flexibility of averaging as one way to improve the manufacturers' ability to comply with stringent standards. It increases the economic efficiency of the standards without decreasing the overall emission reductions they produce. EPA therefore expects particulate averaging to be part of the final rules in this action. The long-term particulate standards being proposed today consider averaging as part of the manufacturers' compliance strategy.

The details of the proposed averaging program are explained further below. One aspect which should be highlighted here is the proposal to exclude urban bus engines from the averaging program. EPA sees a potential problem if averaging were used in such a way as to eliminate traps on urban bus engines in trade for increased control for other engines. EPA believes it essential that bus engines be controlled to the maximum extent possible, both because they are key contributors to central city emissions, and because bus emissions are highly visible. Therefore, EPA is proposing to exclude urban bus engines from the averaging program.

EPA has also previously announced that it was considering the adoption of an averaging program for NO_x emissions from both heavy-duty engines and light-duty trucks (45 FR 79382, November 28, 1980). Even though it is not specifically proposing NO_x averaging at this time, EPA may implement such a program as part of the final rulemaking. If it were adopted, NO_x averaging would likely use the same approach as that being proposed for particulate. Gasoline-fueled and diesel engines might be required to average their emissions separately, as would heavy-duty engines and light-duty trucks. Comments are therefore requested on the topic of NO_x averaging and its usefulness in easing compliance with the long-term heavy-duty engine standards.

A final issue concerning mobile source emissions averaging (whether of particulate or NO_x) is the question of credits and trading. EPA is seriously considering the possibility of establishing a system whereby manufacturers could accumulate credits for engine emission levels which are below the standard, and then sell such credits to other manufacturers for use in offsetting excess emissions.

EPA believes that the concept of trading credits may aid in the resolution of some of the problems (*e.g.*, competitive impacts) seen as possible under an averaging program such as is proposed today. Thus, despite the fact that EPA is not proposing a specific program for the inclusion of credits and trading in the particulate averaging program, the Agency is seriously considering such a program. EPA specifically requests that commenters address the concepts of credits and trading in conjunction with averaging in terms of the possible mechanics of such a program, the potential benefits and negative impacts, and the potential cost savings if such an approach is taken in the final rule. Comments should also address the question of EPA's authority to establish a trading program for particulate and/or NO_x emissions within the constraints of the mobile source provisions of the Clean Air Act.

D. Alternatives

As will be seen, control of either particulate or NO_x to the degree needed to adequately deal with the environmental needs outlined above involves significant technological challenge and has substantial economic implications. Therefore, EPA has considered a wide range of alternatives in arriving at the final form of today's proposal. These alternatives, and EPA's evaluation of each, are reviewed below. Interested readers are referred to the Alternatives chapter of the Regulatory Impact Analysis for details beyond those presented here.

In general, available alternatives deal with combinations of two factors: stringency of standards and leadtime. In terms of stringency, EPA has considered options varying from no new standards up to the limits of foreseeable technology. The practicality of any of those technological options varies, however, depending on the time allowed for implementation. Therefore, varying amounts of leadtime have also been analyzed. Within the spectrum of standards and leadtime, there is in fact a near continuum of possible options.

EPA has attempted to focus specific options at points which are reasonably distinctive in one or more of three areas: technology, benefits, or required leadtime.

1. Heavy-duty Diesel Particulate

Identification of options. Clean Air Act requirements and the environmental situation both argue strongly for the early implementation of standards to control heavy-duty diesel particulate emissions. On the other hand, the technological barriers to major reductions are of the sort which may require considerable time and effort to overcome. Therefore, EPA has examined separate near- and long-term possibilities. The goal of the near-term options is to implement the greatest degree of control feasible without undue adverse impacts as soon as possible, while the longer term standards are oriented toward attaining more substantial and needed emissions reductions. Considering the time required to complete the rulemaking process and technology considerations for manufacturers to respond to an initial standard, EPA has identified 1987 as the earliest year for a standard. Beyond that, 1990 has been identified as allowing time for implementation of more advanced technology. For these two years, the specific options are identified below along with some of the key considerations for each.

Before turning to individual options, it is important to note that, although the particulate and NO_x options are considered separately here, they do in fact interact. In developing and analyzing the following options, EPA has fully considered those interactions when assessing feasibility, technology and cost. The process was carried out in a fashion which would insure the compatibility of the final selected options. For example, the assessment of the number of traps needed to meet the 1990 trap-based particulate options was done on the basis of the existence of the more stringent NO_x standard also expected for that year. The two pollutants are discussed separately for clarity of presentation, but readers should bear in mind that they are interrelated and are in the end to be viewed as pairs or particulate and NO_x standards.

For 1987:

No standard. This option represents the situation if EPA were to take no action to control heavy-duty diesel particulate emissions. In light of both the Clean Air Act mandate and the significant growth in particulate emissions which occur without particulate control, this is not a viable option.

0.60 g/BHP-hr. This option represents what EPA believes to be the lowest feasible level in the near term. Current engine emissions are in the 0.4 to 0.8 g/BHP-hr range. The target low mileage emission level associated with a 0.60 g/BHP-hr standard is about 0.46 g/BHP-hr. Thus, some engines already meet the required target, while reductions would be required of others. EPA believes such reductions are feasible with technology and engine calibration changes available in the short term. Such things as improvements in fuel injection systems, increased use of turbocharging, and improvements in engine efficiencies should be able to provide the reductions needed.

For 1990:

Since the 1990 options represent fairly stringent standards, the incorporation of an emissions averaging program in 1990 has been included for all but the "no further control" case. As noted earlier, averaging reduces the risk of non-compliance as well as the cost of stringent standards. It will find its greatest usefulness with the trap-based options.

No control beyond 0.60 g/BHP-hr. While 0.60 g/BHP-hr is a feasible limit for the near term standard, it produces relatively small per-vehicle reductions in particulate emissions. Overall, fleetwide heavy-duty diesel engine particulate emissions would increase by 65 percent between 1983 and 1995 under this option. In addition, such a standard for 1990 or later fails to take advantage of the technological progress that should be made in the three years after 1987. Therefore, 0.60 g/BHP-hr in 1987 without follow-on reductions could not be considered an adequate alternative for longer-term particulate control.

0.40 g/BHP-hr. In moving beyond the 0.60 g/BHP-hr level, EPA believes that a reduction to at least 0.40 g/BHP-hr will be essential to produce further meaningful progress in reducing diesel particulate emissions. This level represents both a sizeable reduction from the 0.60 g/BHP-hr level and EPA's determination of the approximate technological limit for reductions which could be reached without the application of particulate trap technology to heavy-duty diesel engines. It involves substantial improvement over present engines. Some of this improvement will come from techniques already being developed for improved performance and fuel economy (the full cost therefore not being attributable to new standards). However, this level also presumes the further development and application of advanced and costly technology, to a degree which cannot be precisely quantified at this time. Future controls will include such things as the anticipated application of electronic controls to engine operations like fuel injection and exhaust gas recirculation, the development of low heat rejection techniques and ceramic materials, increased fuel injection pressures, and other efficiency improving engine changes. Because of uncertainty regarding the mix of control technology which will eventually be used to meet the standard, costs are likewise uncertain. EPA's best judgment estimates are that the discounted lifetime costs for a 0.40 g/BHP-hr standard would be from $195 to $390 per vehicle, depending on fuel economy impact. Particulate emissions in 1995 would be reduced by 35 percent compared to the no-control case, but net heavy-duty diesel particulate emissions would still increase more than 20 percent from 1983 to 1995.

0.25 g/BHP-hr. Reducing particulate emissions to below 0.40 g/BHP-hr is expected to require the application of traps. Use of this technology is still in the early stages of development for heavy-duty diesels, and admittedly much more work is needed before traps will be feasible for production engines. Traps on heavy-duty diesel engines must perform successfully in an environment which is in some ways more challenging than that for light-duty diesel traps (for example, successful regeneration must be possible over a wider range of sustained operating temperatures), and must do so for a generally much longer useful life period. However, at this time EPA sees no insurmountable obstacles to successful application, especially given the substantial amount of leadtime remaining before such a standard would go into effect and the already advanced stage of particulate trap development for light-duty diesels.

EPA believes that it will not be possible to move below the 0.40 g/BHP-hr option without the introduction of trap technology. As the standard is lowered below that level, there would be an increasing use of traps within the fleet, with manufacturers making use of averaging to minimize the total number of traps required. Because EPA foresees that some applications will be technically more difficult than others, there is some advantage in a standard which does not require traps on all engines, so that the more technically difficult applications can be avoided. With averaging and a 0.25 g/BHP-hr standard, traps will be needed on an estimated 70 percent of the fleet. At this

level, heavy-duty diesel engine emissions would be controlled to the point where emissions in 1995 would be at or even slightly below those of 1983. These emissions represent about a 50 percent reduction from uncontrolled levels, at a per-vehicle cost of about $760 to $1,100, again depending on fuel economy impact.

Urban-oriented variations on 0.25 g/BHP-hr. There is wide variation between different heavy-duty diesel engine applications in the amount of total mileage accumulated within urban areas. Lighter heavy-duty diesels and such vehicles as transit buses, trash compactors, and cement mixers spend the predominant amount of their time in urban operation. Premium heavy-duty diesels used in over-the-road line-haul travel, on the other hand, accumulate most of their mileage in rural inter-city operation. Since EPA's main concern with diesel particulate emissions is their impact on urban air quality, two urban-oriented variations on the 0.25 g/BHP-hr trap option have been evaluated which attempt to focus control primarily on urban vehicles. Both of these variations maintain a non-trap standard for line-haul engines. (Line-haul engines in this case would be defined as those engines used in Class VIII trucks having gross vehicle weight ratings above 60,000 lbs.) Elimination of the need for traps on these vehicles would avoid the most difficult applications, in trade for a moderate loss in overall urban emission reduction. On the other hand, it is also true that line-haul vehicles would be best able to absorb the high cost of traps because of their already high initial cost compared to other heavy-duty diesel engine applications.

The line-haul standards considered are 0.60 and 0.40 g/BHP-hr. The 0.60 g/BHP-hr level is, of course, a much easier standard to meet than the 0.40 g/BHP-hr level. Unfortunately, even the small fraction of line-haul mileage which is urban in nature is sufficient to raise overall heavy-duty diesel particulate emissions in urban areas under this option to above those under a uniform 0.40 g/BHP-hr non-trap standard. Morever, 0.60 g/BHP-hr could not be considered a technology-forcing standard for line-haul engines in the 1990 timeframe. Thus, a 0.40 g/BHP-hr line-haul standard is the most logical choice to combine with the 0.25 g/BHP-hr trap-based standard. With this combination, there would be a loss of control of about 12 percent in urban areas as compared to the uniform 0.25 g/BHP-hr standard, and 1995 urban heavy-duty diesel engine emissions would be about 7 percent greater than 1983 levels. As can be seen from these figures, even predominantly over-the-road line-haul operation has a significant urban impact.

One difficulty which EPA has had with this approach has been that of developing a regulatory procedure for successfully separating urban from non-urban applications. Heavy-duty diesel engines are currently certified independently from vehicles, and a given engine may be used for a wide variety of applications. An urban designation would require identification of intended vehicle application, and since some engines would be used for both urban and non-urban applications, the manufacturer would be required to develop both trap and non-trap versions of the same engine to be able to take advantage of the optional standard. Such a situation might offer little advantage to the manufacturer. Additionally, an urban option might introduce unwanted competitive effects, for example by favoring manufacturers who made only those engines falling into the line-haul exclusion and who would not have to undertake the resource investments required of other manufacturers to develop trap systems.

0.10 g/BHP-hr. It was noted under the discussion of the previous option that a 0.25 g/BHP-hr standard can be met with traps on about 70 percent of the fleet if averaging is allowed. If the standard were further reduced until essentially 100 percent trap usage were required, the resulting level would be approximately 0.10 g/BHP-hr. This level thus represents the maximum degree of reduction of heavy-duty diesel particulate emissions that can be achieved with the use of trap technology.

Requiring traps on all engine families, however, would increase both the cost and the risk associated with the standard. The technical challenge of successfully applying traps to all engines is much greater than that of applying them to most engines, since in the latter case the manufacturers will be in a position to focus resources on predominant uses and avoid especially difficult cases. At the same time, a 0.10 g/BHP-hr standard would maximize the available emissions reduction, bringing about a 65 percent reduction from uncontrolled levels and reducing total 1995 heavy-duty diesel particulate emissions to a level 33 percent below those in 1983.

There is a modified application for the 0.10 g/BHP-hr option which relates to the control of urban bus emissions. As has been noted earlier in the discussion of averaging, EPA believes it is very important to obtain the maximum degree of control for urban buses. Therefore, in addition to excluding such engines from the averaging program, EPA is considering the establishment of a standard of 0.10 g/BHP-hr for bus engines to insure the fullest use of the emission reduction potential of traps.

Evaluation of particulate options. In its evaluation of all of the above options, EPA has considered a number of factors. These included the statutory requirements, anticipated costs and emission reductions, cost effectiveness, and technological requirements for compliance. Some of these factors have already been touched upon in discussion of the individual options. The following material provides further key information for comparing the impacts of the options.

The emissions impacts of the various options are shown in Figure 3, where the options are arranged in order of decreasing emissions. For comparison purposes, the level of 1983 emissions is also shown.

As can be seen, meaningful reductions from uncontrolled levels require a standard of 0.40 g/BHP-hr or lower. Even at that level, heavy-duty diesel particulate emissions in 1995 will be 23 percent higher than in 1983. To further regulate emissions so they do not increase above 1983 levels requires some form of a trap-based standard. Essentially meeting that goal are either the 0.25 or 0.10 g/BHP-hr standards, or the 0.25 g/BHP-hr standard with a 0.40 g/BHP-hr line-haul option. However, it is noteworthy that the 0.60 g/BHP-hr line-haul option does not perform especially well, having emissions actually somewhat higher than the across-the-board 0.40 g/BHP-hr standard. The 0.10 g/BHP-hr standard attains the maximum overall reduction, being 65 percent below the uncontrolled level and 33 percent below 1983 levels.

Figures 4a and 4b present other information related to the economic impacts of the options, in particular, cost effectiveness, which measures the economic efficiency of each option, and midpoint cost per engine (including operating costs). For clarity of presentation, the cost per engine values plotted are the midpoints of the ranges (based on possible fuel economy impacts) of estimated costs.

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Figure 3

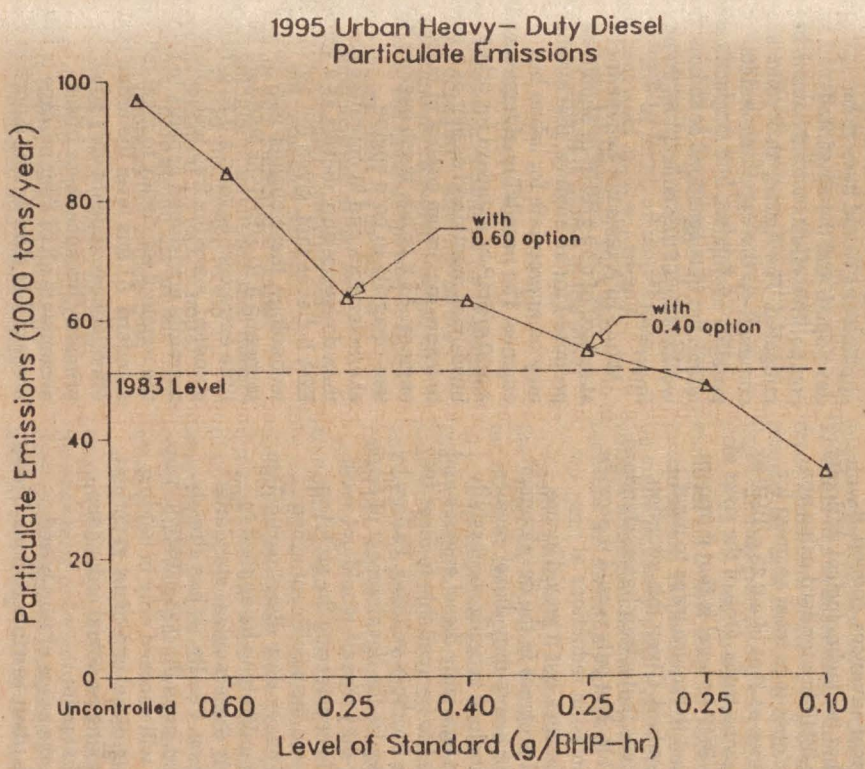

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Figure 4a

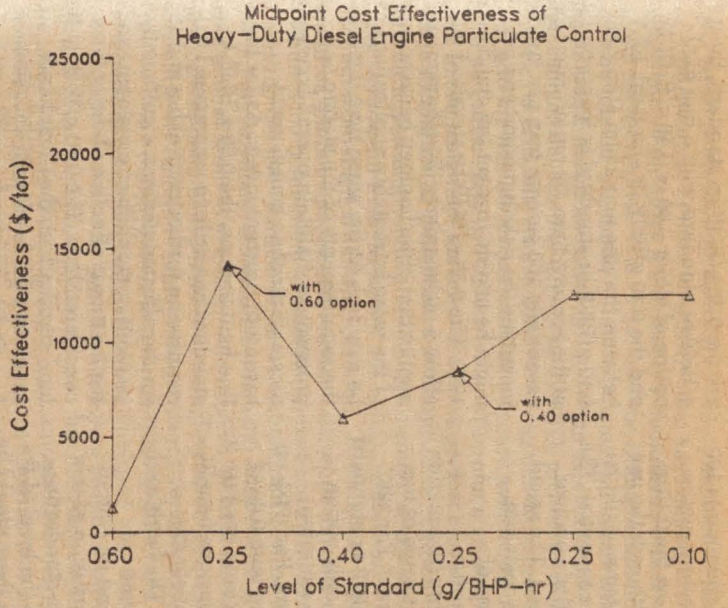
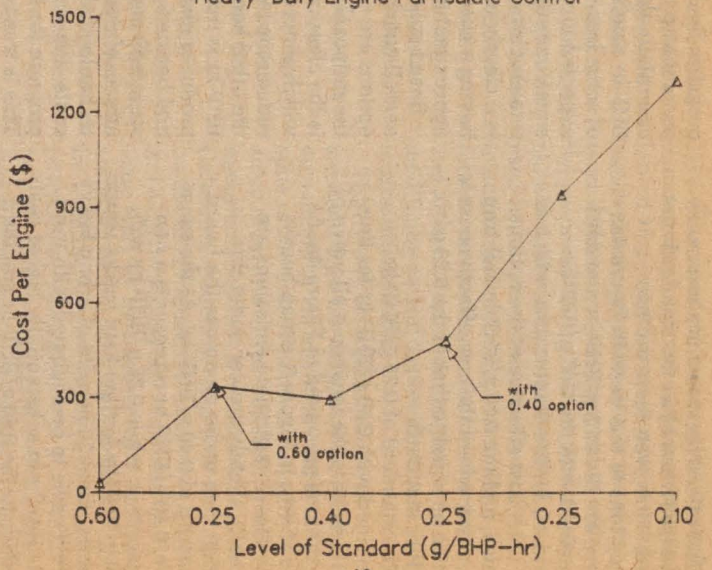


Figure 4b



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Cost effectiveness values commonly increase (worsen) as the standards get lower. However, there are two exceptions to this trend in Figure 4a. These are the 0.25 g/BHP-hr standard combined with the 0.60 g/BHP-hr standard for line-haul trucks, which is the least cost effective of the options shown, and the 0.10 g/BHP-hr full-trap standard, where the cost effectiveness is shown as equal to that of the 0.25 g/BHP-hr standard.

The standard of 0.25 g/BHP-hr combined with 0.60 g/BHP-hr for line-haul trucks is the least cost effective of the options presented in Figure 4a. As was shown in Figure 3, urban heavy-duty diesel particulate emissions are actually slightly greater under this option than under an across-the-board standard of 0.40 g/BHP-hr. At the same time, 0.40 g/BHP-hr represents a non-trap option, while 0.25 g/BHP-hr with 0.60 g/BHP-hr for line-haul trucks would require about 70 percent of urban heavy-duty diesels to be equipped with traps. This results in substantially higher costs, relative to the 0.40 g/BHP-hr standard, while the total emissions reductions are slightly less. The resulting cost effectiveness value of about $15,000 per ton of urban particulate emission reduction makes this an unattractive option.

Turning to the 0.10 g/BHP-hr standard, EPA believes that the cost effectiveness of this standard will actually be somewhat worse than that of the 0.25 g/BHP-hr standard, but is not at this time able to quantify the difference. The maximum benefit and least cost applications will have already been used to meet the 0.25 g/BHP-hr standard (with averaging), so that subsequent use of traps on additional engines might be somewhat less cost effective. Among the factors arguing for higher cost at the 0.10 g/BHP-hr level are greater development costs, the need to design to lower low-mileage-target emission levels, the use of higher quality components, the probable need for more frequent trap regeneration, and the increased risks associated with in-use compliance. Accordingly, although emissions would be lower under a 0.10 g/BHP-hr standard, it appears that this standard would be less cost effective than is shown in Figure 4a.

On the other hand, Figure 4b indicates that even when these extra cost factors are not considered, these two options differ markedly in cost per engine, reflecting the increased use of traps at the 0.10 g/BHP-hr level.

Although not shown in Figure 3 or 4, EPA has also examined the impacts of a 0.25 g/BHP-hr standard implemented without the benefit of an averaging program. Such an approach requires 100 percent trap use, and therefore incurs essentially the same cost as the 0.10 g/BHP-hr standard does, although the use of some less efficient systems would be expected to reduce costs somewhat. The emission reduction benefits, however, remain virtually unchanged. The result is a clearly less efficient regulation, having a cost effectiveness of approximately $16,000 per ton.

Based upon the available information overall conclusions about some of the options are readily apparent. For 1987, the proposal of a 0.60 g/BHP-hr standard is the clear choice as the only option which generates feasible emission reductions in the near term. For 1990, on the other hand, continuing with 0.60 g/BHP-hr is not acceptable both because it produces insufficient emissions benefit and because it fails to satisfy the requirements of the Act. The beneficial effects of averaging, both on technological difficulty and on overall costs, also support the inclusion of this program for the long-term standards. This is true regardless of the level of the final standards, although there would be more benefit if a trap-based standard were promulgated.

Beyond these decisions, the choices for long-term standards become more difficult. Both the non-trap and trap-based standards will demand significant technological advances. Indeed, it appears that the technological difficulty of a 0.40 g/BHP-hr standard using non-trap techniques is at least as great for some engines as that of a 0.25 g/BHP-hr standard using traps. One of the risks of the 0.40 g/BHP-hr level is that it may in fact turn out to require traps to meet such a standard. Given this situation, EPA believes that a trap-based standard is preferable. Not only would it provide needed emission reductions at reasonable cost, but it would insure continued progress in the development of traps for heavy-duty diesel engines. Trap technology is being successfully applied to light-duty diesel engines and is expected to be available to meet 1987 standards for those vehicles. Failure by EPA to require the development of traps for heavy-duty diesels would not seem reasonable considering the statutory mandate and the significant urban impact of heavy-duty diesel particulate. Traps are unlikely to be applied to heavy-duty diesels unless standards require them. Finally, as has already been noted, even the 0.25 g/BHP-hr trap standard will succeed only in holding heavy-duty diesel emissions at current levels, making no actual reductions beyond that point.

Within the range of trap-based standards, there are four options. These are the 0.25 g/BHP-hr standard, the 0.25 g/BHP-hr standard with a line-haul option of either 0.60 or 0.40 g/BHR-hr, and the 0.10 g/BHP-hr standard. EPA believes that the maximum stringency 0.10 g/BHP-hr standard is inappropriate at the present time. Its requirement for essentially 100 percent trap use greatly increases the risk that some engines might be unable to meet the standard by 1990. The 0.25 g/BHP-hr standard will allow a more orderly development and application of technology because some of the more intractable applications can be avoided. At the same time it meets the requirements of the statute and promises to maintain overall heavy-duty diesel particulate emissions at essentially current levels. As for the line-haul options, the 0.60 g/BHP-hr standard has little to recommend it. It requires no further control beyond 1987 for the affected engines, significantly increases overall fleet emissions, and is the least cost effective of the options considered here. The 0.40 g/BHP-hr line-haul standard, on the other hand, involves a trade of some emission benefit for enhanced overall cost effectiveness. For this reason, EPA currently favors inclusion of the 0.40 g/BHP-hr line-haul option in the Final Rule. However, before such an approach could be finalized, regulatory means of identifying urban and non-urban applications would have to be developed, and the unwanted competitive effects would have to be mitigated. The Agency thus solicits comment on this approach and its possible usefulness, and is specifically interested in suggestions as to how the workability of this concept might be improved.

While EPA does not believe that a standard of 0.10 g/BHP-hr should be proposed for all engines, that standard may be appropriate for urban bus engines. The possibility of implementing a 0.10 g/BHP-hr standard for urban buses was mentioned earlier as a means to insure maximum control of these engines. As a group, these engines have less diversity in both engine characteristics and in operating patterns than do heavy-duty diesels as a whole. EPA believes that, given the use of trap technology, these engines may be able to meet a 0.10 g/BHP-hr standard for little extra cost beyond a 0.25 g/BHP-hr standard, since the trap technology currently envisioned appears to provide the required efficiency to meet the lower standard. At this level the urban cost effectiveness appears very good, primarily because these buses accumulate all of their mileage in urban areas rather than having a portion of

emissions benefits discounted as rural. The cost effectiveness of the 0.10 g/BHP-hr standard for urban buses is estimated to be about $3,300 per ton.

Since EPA has not identified significant cost differences between these two standards, the 0.10 g/BHP-hr level appears preferable. At the same time, recognizing that such costs may be identified by public comment on the proposal, the Agency remains open to eventually setting a 0.25 g/BHP-hr standard for urban buses and is proposing both options for comment.

EPA believes strongly that trap technology is feasible and cost effective for most heavy-duty diesels for the 1990 model year, yet it also recognizes the possibility that its judgment could be changed by information developed during the public comment period. Therefore, it is also prudent to indicate what course EPA would choose for non-trap standards in that eventuality. EPA's plan at this time would be to implement the 0.40 g/BHP-hr level should a non-trap standard prove to be necessary.

In summary, EPA believes that some degree of immediate control should be implemented, and that a standard of 0.60 g/BHP-hr is feasible in the 1987 timeframe. Beyond that, substantial further reductions are called for and appear to be feasible for 1990. It is EPA's further judgment that trap technology can be successfully applied to most heavy-duty diesel engines in that timeframe, and that the added emission reductions possible with traps justify the increased costs of a 0.25 g/BHP-hr standard, and perhaps a 0.10 g/BHP-hr standard for urban buses. If the problems associated with implementing a 0.40 g/BHP-hr line-haul standard in conjunction with the 0.25 g/BHP-hr standard can be resolved, EPA also favors including this option in the Final Rule.

2. Heavy-duty Engine NO_x

EPA continues to believe, as originally indicated in the NO_x advance notice, that the statutory 75 percent reduction standard is not feasible for heavy-duty diesel engines. A NO_x standard will have to be developed either as a temporary revision, based on such things as cost and fuel economy impacts, or as a permanent change based upon lack of environmental need. From the earlier discussion of the environmental need for NO_x control, there may or may not be a need for controlling future motor vehicle NO_x emissions.

In developing NO_x control options, EPA has decided to use common standards which are appropriate for both gasoline-fueled and diesel heavy-duty engines. While it would be possible to have separate standards for gasoline-fueled and diesel engines, there would be little environmental benefit from doing so in this case. As was noted in the discussion of environmental need, NO_x emissions from heavy-duty gasoline engines are expected to decline in future years even without additional control. Therefore, so long as a reasonable degree of control is established for gasoline engines, they will not pose a significant concern relative to future NO_x emissions.

In a manner similar to the heavy-duty diesel particulate options, EPA has examined NO_x control options in two timeframes, near-term (1987) standards and longer-term (1990) standards. For NO_x there is an added leadtime dimension because of the statutory leadtime provisions of Section 202(a)(3)(B) of the Clean Air Act. The choice of 1987 does not satisfy the four year leadtime provision of that section, but EPA has explicitly considered the amount of available leadtime in developing 1987 options and, as indicated in the earlier discussion of statutory provisions, believes the now conflicting requirements of the Act necessitate such an approach. In addition, manufacturers have been aware since the January 1981 advance notice that EPA planned to require substantial NO_x emission reductions. This fact has in essence given them three additional years to begin to prepare for new NO_x standards. While this fact does not in any way excuse EPA from the need to allow adequate leadtime for a new standard after its promulgation, it has allowed progress to be made in heavy-duty engine NO_x control and reduced the required leadtime for an early standard.

For 1987:

No new standard. Under this option, the 1986 NO_x standard would remain unchanged. This approach would have to be implemented under Section 202(a)(3)(E) after the Administrator has studied the impact of motor vehicle NO_x emissions on public health and welfare. However, current engines are actually operating below the level of the standard (generally in the 4 to 8 g/BHP-hr range), so that future emission levels could increase even more than projected if manufacturers were to take advantage of potential increases in trade for improved fuel economy or easier compliance with particulate emission standards.

6.0 g/BHP-hr. EPA's evaluation of current emission levels and the potential for near-term reductions from heavy-duty diesel engines indicates that a standard of 6.0 g/BHP-hr is feasible for 1987. This standard represents a modest decrease from current engine emissions (about 15 percent below current levels) which should be attainable in the short term with techniques compatible with the proposed 0.60 g/BHP-hr particulate standard. Techniques expected to be used include improvements to fuel injection systems, injection timing retard, increased use of turbocharging and aftercooling, minor engine modifications and improvements to engine efficiencies.

This option is considerably less stringent than the 4.0 g/BHP-hr level envisioned in the advance notice, in spite of the time which has elapsed since then, and in spite of the fact that manufacturers face a standard for their California models of 5.1 g/BHP-hr NO_x on the EPA transient test (or 4.5 g/BHP-hr HC plus NO_x on the 13-mode steady state test) for 1984. However, a Federal standard below 6.0 g/BHP-hr would not be feasible for 1987, principally because of leadtime constraints. The 6.0 g/BHP-hr level itself will present a challenging task in that timeframe. Standards would need to be delayed several years (see the discussion of 1990 standards below) to move significantly below that level.

Gasoline-fueled heavy-duty engines will be able to readily meet a 6.0 g/BHP-hr standard in 1987. About one third of current engines are already capable of meeting such a standard, and those remaining have well established techniques at hand for compliance. Recalibrations of air/fuel ratios, enhanced exhaust gas recirculation (which will already be in use on most heavy-duty gasoline engines), and ignition timing retard will be able to satisfy a 6.0 g/BHP-hr standard with no significant impacts on performance or fuel economy.

EPA views the 6.0 g/BHP-hr 1987 option as essentially a stop-gap measure to obtain a feasible level of control in the short term. The Agency's main concern is directed at the longer-term 1990 standard. Although the proposal as structured provides a three-year period for the interim standard, the Agency does not view it as essential to maintain such a period should it, for example, turn out that the 1987 proposed level has to be delayed. In such an event, the Agency might choose to abandon the interim standard or to implement it for a one or two year period, depending on the situation. Any decision to change or delay the 1990 standard will be an independent judgment based only on facts pertinent to the feasibility of that standard for that year. (A decision about 1990 would, of course, consider as relevant such facts as the impact of a

delayed interim standard on the availability of manufacturers' resources for meeting a long-term standard.) Commenters on the proposal should treat the near-term and long-term standards as separate and distinct issues, and not assume that a delay in the 1987 standard would mean an automatic delay in the 1990 standard.

For 1990:

No control beyond 6.0 g/BHP-hr. If no additional control is adopted for 1990, then heavy-duty engine NO_x emissions will continue to increase much as projected under current standards. A 6.0 g/BHP-hr standard would result in heavy-duty engine NO_x emissions in 1990 being over 50 percent greater than in 1980. Such a standard also would fail to meet the statutory requirement for a temporarily revised standard (based on technological, cost, or fuel economy considerations). The Administrator would have to issue the standard under section 202(a)(3)(E) after studing the effects of motor vehicle NO_x emissions on the public health and welfare.

4.0 g/BHP-hr. In order to deal successfully with the problem of future growth in NO_x emissions, a substantial reduction beyond the 6.0 g/BHP-hr level is necessary. EPA believes that further reductions are available, and that projected improvements in technology argue for lower future standards. Unfortunately, heavy-duty diesel engines, which form the bulk of the problem which must be addressed, are limited in their capability for reductions in NO_x. Based upon current knowledge of diesel NO_x control technology, EPA believes that a 4.0 g/BHP-hr standard represents the approximate limit of available control without unacceptable impacts on fuel economy, engine durability or engine-out particulate levels. Primary sources of NO_x control lie in the areas of electronically programmed exhaust gas recirculation, electronic management of fuel injection, charge air cooling, and engine modifications to improve efficiency and enhance combustion. These will be implemented in concert with changes needed for particulate control. As noted in the discussion of the 0.40 g/BHP-hr particulate option, much of this technology is already targeted for introduction on heavy-duty diesel engines in the late 1980s for reasons apart from emissions control (fuel economy improvements). The full cost, therefore, should not be attributed to emissions control requirements. There is also uncertainty as to the final complement of technologies which will be used to meet a 4.0 g/BHP-hr standard, introducing further variability into actual costs. Discounted lifetime cost would be about $300 to $1,000 per vehicle, depending on fuel economy effect. Total discounted NO_x emissions in 1995 would only be about 7 percent greater than 1980 levels under this option.

In establishing the 4.0 g/BHP-hr option, full consideration has been given to the interactions which will occur between NO_x and particulate standards for heavy-duty diesel engines. The most difficult combination of standards would pair the 4.0 g/BHP-hr NO_x standard with the 0.40 g/BHP-hr non-trap particulate standard. With this combination, great care would have to be exercised in balancing tradeoffs between NO_x and particulate emissions to bring engine-out levels of both pollutants below the standards. The difficulty of the 4.0 g/BHP-hr NO_x standard would be eased somewhat when paired with the trap-based 0.25 g/BHP-hr particulate standard. The use of traps for particulate control will allow some increase of engine-out particulate in favor of lower NO_x levels. In any event, EPA recognizes that the combination of a 4.0 g/BHP-hr NO_x standard with either a 0.40 g/BHP-hr or a 0.25 g/BHP-hr particulate standard will represent a very difficult challenge for conventional diesel engine technology.

Heavy-duty gasoline engines will also be able to meet a 4.0 g/BHP-hr option for 1990. Enhanced use of exhaust gas recirculation will be the primary means of compliance, along with engine modifications to improve tolerance for exhaust gas recirculation without adverse fuel economy or performance effects. These modifications might include improvements to combustion chamber efficiency, fast burn combustion techniques, some use of electronic controls, and general engine efficiency improvements. Similar non-catalytic reductions of NO_x have been attained for light-duty vehicles, and considering the amount of leadtime remaining before 1990, EPA believes that the necessary improvements will be attainable for gasoline-fueled heavy-duty engines.

The cost-effectiveness of the 40 g/BHP-hr option is very good, under $400 per ton, for both gasoline-fueled and diesel engines. Cost effectiveness turns out not to have been a significant discriminator for any of the NO_x control options, for either heavy-duty engines or light-duty trucks, because it has been relatively low for all of the options considered. Therefore, cost effectiveness will not be discussed further in the context of NO_x control options.

In summary, the 4.0 g/BHP-hr standard in 1990 combined with a 60 g/BHP-hr standard in 1987 represents what EPA believes to be the proper level of control for heavy-duty engine NO_x emissions, given the technological limitations of current diesel engines.

3. Impact of future Engine and Fuel Development on Heavy-Duty Diesel Engine NO_x and Particulate Emissions

Two developments in heavy-duty diesel engine technology in the early 1990s could have a dramatic effect on the NO_x and particulate levels of those engines. While not required by the standards being proposed today, these technologies appear to have great promise for emission control and could be the primary means of compliance with more stringent standards in the years beyond 1990. Therefore, they deserve mention here.

The first technology is that of ceramics (*i.e.*, the partial or complete insulation of the combustion chamber to reduce the percentage of heat lost to the engine cooling system). Early results of U.S. Army-sponsored research at Cummins Engine Company indicate that particulate emissions, based on smoke measurements, may be reduced on the order of 90 percent by the higher temperatures associated with ceramic technology. Brake-specific NO_x emissions, while expected to increase, actually decreased by a small amount. Thus, as ceramic technology is introduced in the 1990s for fuel efficiency, it may concurrently allow compliance with the 1990 particulate standards without the use of traps.

The second technology is the use of methanol to fuel heavy-duty diesel engines. Early results from an advanced two-stroke heavy-duty diesel engine running on methanol indicate NO_x and particulate emissions well below those required by the 1990 standards. These reductions were not unexpected, since methanol's lower heat of combustion causes lower flame temperatures (reducing NO_x), and the absence of chained carbon atoms and the presence of oxygen in the fuel should work to inhibit particulate formation. The commercialization of such engines primarily awaits the availability of methanol at competitive prices; methanol-fueled heavy-duty diesel engines are already being field-tested in transit buses in California. While the widespread availability of methanol depends on future oil prices, which cannot be accurately predicted, commercial availability could occur in the early 1990s. For transit buses, this could occur much sooner, due to their

centralized fueling system and subsidization by the Federal government.

4. Light-duty Truck NO_x

Light-duty trucks present a different picture than heavy-duty engines in terms of standards development. The technology for NO_x control applicable to light-duty trucks has already been developed for passenger cars and will be easily adaptable to light-duty trucks. In fact, all the techniques which EPA expects to be used to meet new NO_x standards are already being used on at least a portion of the light-duty truck fleet. In this situation, there is no need to look at short-term versus long-term standards. Accordingly, all of the options which EPA has considered are viewed here as options for 1987. The options are as follows:

2.3 g/mi. This level represents a continuation of current standards and would require a finding that additional requirements for LDTs are environmentally unnecessary. Continued control at this level would result in two percent greater NO_x emissions in urban areas than the proposed 1.2/1.7 g/mi standards; however, with the standards now in plalce for cars and those being established in this rulemaking for heavy-duty engines, tighter standards for light-duty trucks may not be needed in the early 1990s to maintain NO_2 attainment. Moreover, control strategies involving other sources may be available at lower cost to maintain attainment. Our data indicate that total urban NO_x emissions will increase in the 1990s and such increases could effect attainment. If this is true, adoption of this option could require a further tightening of the standard sometime in the future. In addition, there may or may not be environmental benefits associated with NO_x reductions beyond issues of NO_2 attainment. Comments are solicited on whether or not attainment can be achieved without further control of light-duty trucks and whether deferring tighter standards would meet the requirements of the statute for heavier light-duty trucks.

EPA also specifically solicits comments on what findings must be made under section 202(a)(3)(E)(ii) to support a changed standard. That subsection refers to the pollutant specific study required under section 202(a)(3)(E)(i), and such other information as is available to the Administrator but does not specify the criteria which must be used as the basis for changing the standard to a level different from that set out in section 202(a)(3)(A)(ii). The study must concern "the effects of [the pollutant] on pulic health and welfare." This language tracks the criteria language in section 108, the basis for establishment of ambient air quality standards under section 109. While this suggests that attainment of the ambient air quality standards is a major consideration in making the requisite determination, it is by no means clear that Congress intended a specific test under section 202(a)(3)(E)(ii). Therefore, we seek comments on what criteria are relevant to a determination that a standard can be changed under this section, i.e., what considerations must be addressed in the pollutant specific study or other available information if EPA were to promulgate such a changed standard. For example, we request comments on the extent to which EPA should consider such factors as attainment with health-based ambient standards, environmental factors outside ambient air quality standards, costs, cost-effectiveness, etc.

1.2 g/mi. Earlier discussion of the advance notice for NO_x standards alluded to the fact that a 1.2 g/mi light-duty truck standard had been derived by EPA as equivalent in stringency to the 1.0 g/mi light-duty vehicle NO_x standard. EPA still believes this to be the case. Light-duty truck NO_x emissions under this option would be controlled to the point where their overall level in 1995 would actually be somewhat below that in 1980, by an estimated 5 percent.

Gasoline-fueled light-duty trucks would meet a 1.2 g/mi standard principally through the application of three-way catalyst systems, although a few of the smallest engines may choose increased exhaust gas recirculation rates or retarded ignition timing rather than the expense of a three-way catalyst. Compliance would be relatively straightforward, with about 40 percent of the fleet already equipped with three-way systems. Diesel powered light-duty trucks would be expected to use some combination of exhaust gas recirculation and injection timing retard to lower NO_x emissions. The only area of difficulty which arises in meeting this option concerns the largest light-duty diesel trucks, such as the Geneal Motors 6.2 liter engine. It is possible that this engine would experience substantial performance and fuel economy penalties in meeting a 1.2 g/mi NO_x standard along with the 1987 light-duty diesel particulate standard.

1.2 g/mi for light-duty trucks up to 6,000 lbs gross vehicle weight or 3,999 lbs equivalent test weight, 1.7 g/mi above. One impact of a tigher NO_x standard for diesel light-duty trucks is an increase in engine-out particulate levels. This, in turn, means that compliance with the 0.26 g/mi particulate standard will be more difficult and require a greater reliance on trap oxidizers. Because both the highest NO_x emissions and highest particulate emissions are associated with the heavier light-duty trucks, EPA has evaluated the potential savings associated with maintaining a less stringent NO_x standard for those vehicles. Such an approach would also ease the difficulty noted above which the largest diesel light-duty truck engines might have with meeting a 1.2 g/mi NO_x standard.

The cutpoint which EPA has chosen for subdividing the light-duty truck class is 6,000 lbs gross vehicle weight, or 3,999 lbs equivalent test weight. These values define two fairly distinct categories of light-duty trucks, and are parameters in fairly common use. The 6,000 lbs gross vehicle weight criterion is the same as that used in the Clean Air Act to separate heavy-duty engines from light-duty trucks, while the equivalent test weight distinction is used in California standards for light-duty trucks. Use of a test weight distinction in addition to gross vehicle weight is intended to discourage artificial "migration" of vehicles from the lighter group to the heavier group, with its attendant, less stringent standard.

In a fashion analogous to that which led to the definition of 1.2 g/mi for light-duty trucks as corresponding to 1.0 g/mi for light-duty vehicles, EPA has identified 1.7 g/mi as corresponding to a 1.5 g/mi light-duty vehicle standard. Use of a 1.7 g/mi standard for the heavier light-duty diesel trucks will have the same effect as the current 1.5 g/mi light-duty vehicle NO_x waiver has for diesel passenger cars. The percentage of light-duty diesel trucks requiring traps to meet the 0.26 g/mi particulate standard will drop, from about 50 to 60 percent to about 20 to 30 percent, while the urban particulate cost effectiveness will improve by a factor of two to three. In exchange for this, 1995 light-duty truck NO_x emissions will increase slightly (about 6 percent), but still will not exceed 1980 levels.

While the principal motivation for this option concerns diese light-duty trucks, EPA has chosen to define the option as applicable to both gasoline-fueled and diese light-duty trucks. The overall impact of a 1.7 g/mi standard for all light-duty trucks above 6,000 lbs gross vehicle weight and 3,999 lbs equivalent test weight on NO_x emissions is small, and differs only slightly from the case where only diesels are covered. It has

the benefits of regulatory simplicity and equity of standards between the two engine types.

As a variation on this option, EPA has also considered proposing a 1.2 g/mi standard for all light-duty trucks except for the heavier diesels. Those vehicles would continue to meet a 2.3 g/mi standard as at present. As already noted with regard to retaining the 2.3 g/mi standard for all light-duty trucks, comments are solicited on whether or not continuing the current standard for heavier light-duty trucks is allowable under the statute. Also, comments are solicited on wheher this option equitably treats both the heavier gasoline and diesel light-duty trucks.

II. Summary of the NPRM

As is clear from the preceding discussion, the proposed NO_x standards for light-duty trucks and heavy-duty engines and the proposed particulate standards for heavy-duty diesel engines are the major provisions of today's notice. These are summarized briefly below, followed by discussions of the other provisions of the proposal.

A. Low-Altitude NO_x and Particulate Standards

This section summarizes the low-altitude NO_x and particulate standards proposed today for light-duty trucks and heavy-duty engines. The rationale behind the levels of the standards and effective model years was developed in the preceding section.

Revised NO_x standards are proposed for 1987 and later model year light-duty trucks. For light-duty trucks up to and including either 6,000 lbs gross vehicle weight or 3,999 lbs equivalent test weight, the proposed standard is 1.2 g/mi. For light-duty trucks over 6,000 lbs gross vehicle weight and 4,000 lbs equivalent test weight, the proposed standard is 1.7 g/mi.

Revised NO_x standards are also proposed for all heavy-duty engines, both gasoline-fueled and diesel. The proposed standards are 6.0 g/BHP-hr for the 1987–89 model years, and 4.0 g/BHP-hr for 1990 and later model years.

Particulate standards are proposed for heavy-duty diesel engines. The proposed standard for model years 1987–89 is 0.60 g/BHP-hr, and the proposed standard for 1990 and later model years is 0.25 g/BHP-hr. For urban buses, alternative particulate standards of 0.10 and 0.25 g/BHP-hr are proposed for 1990 and later model years.

B. Other Provisions of the Proposal

1. Allowable Maintenance Provisions

Allowable maintenance regulations deal with the maintenance done on vehicles, engines or sub-systems during testing programs to establish compliance with emission standards, and with maintenance instructions provided to vehicle owners. Today's notice proposes certain revisions to the regulations governing allowable maintenance for light-duty vehicles, light-duty trucks and heavy-duty engines, beginning with the 1987 model year.

There are several distinct aspects to the proposal. The first of these involves the extension of provisions already implemented for 1984 and later model year light-duty trucks and heavy-duty engines to cover light-duty vehicles as well. These provisions distinguish between allowable maintenance for emission-related and non-emission-related components. No limits are placed on the maintenance performed on non-emission-related components, beyond the requirement that maintenance schedules be the same as are recommended to the ultimate purchaser. For emission-related components (those components substantially affecting exhaust emission levels or likely to affect the deterioration of emissions), minimum technologically necessary maintenance intervals are specified in the regulations. The maintenance intervals for light-duty vehicles would be the same as those already established for light-duty trucks. These intervals represent requirements which are very close to current practice for the majority of manufacturers, and their feasibility is based upon the close similarity between light-duty vehicles and light-duty trucks in terms of technology and usage patterns.

While compliance with the new maintenance intervals would be relatively straightforward, EPA believes that it is important to extend this approach to allowable maintenance so that it covers light-duty vehicles. The overall purpose is to encourage the design of more durable emissions control systems which need less maintenance to be able to perform properly. The need for such improvements for light-duty vehicles is basically the same as that which led to the adoption of the allowable maintenance regulations for light-duty trucks and heavy-duty engines. In addition, this change would establish consistent provisions for all vehicle categories. Interested readers are referred to the light-duty truck rulemaking (45 FR 63734, September 25, 1980) and the heavy-duty engine rulemaking (45 FR 4136, January 21, 1980) for further information, including the development of the technologically necessary maintenance intervals.

EPA is proposing the addition of electronic engine controls and related actuators and sensors (including oxygen sensors, if used) to the list of emission-related components for light-duty vehicles, light-duty trucks, and heavy-duty engines. (Oxygen sensor maintenance is already regulated for light-duty trucks, with an interval of 50,000 miles.) The proposed minimum maintenance interval for these components is 100,000 miles.

EPA is also proposing that turbochargers and carburetors be added to the list of emission-related components for all gasoline-fueled vehicles and engines. The proposed interval in both cases is 100,000 miles. Although maintenance intervals for diesel engine turbochargers have been specified in the regulations for some time, EPA has not previously seen the need for similar provisions for gasoline-fueled engines, since so few of those engines were equipped with turbochargers. With the recent and projected future increases in turbocharger use by gasoline-fueled engines, EPA believes that regulations like those applicable to diesel engine turbochargers are now warranted. The addition of carburetors to the list of emission-related components follows logically from the extension of the useful life period for light-duty trucks and heavy-duty engines. EPA believes that manufacturers may perceive a need for recommending carburetor maintenance during the full-life useful life that did not arise under the previous half-life useful life.

The second part of the allowable maintenance proposal consists of several changes which will apply to all vehicle categories. The first of these is the concept of "critical" emission-related components.

As a sub-category of emission-related components, critical emission-related components are proposed to be defined as those components which either are designed exclusively for emission control purposes, or whose failure may result in a significant increase in emissions accompanied by no significant impairment (or perhaps even an improvement) in performance, driveability, and/or fuel economy. EPA is proposing that, in the case of critical emission-related components requiring maintenance during the useful life of the vehicle or engine, the manufacturer accept the burden of showing that the

maintenance is likely to be performed by the owners. Otherwise, the installation of the control system could be a mere formality, exercised to receive a certificate of conformity, but then failing to accomplish the intended emission reduction in actual on-the-road vehicles. This requirement, like the other revisions and additions to the maintenance regulations which EPA is proposing, will help to insure the attention of manufacturers to the design and production of vehicles and engines which continue to be in compliance with applicable emission standards in actual use.

Maintenance on the following components is proposed to be defined as critical emission-related maintenance: the catalytic converter, the trap-oxidizer and related components, all components of the air injection system, the electronic engine control unit and its associated sensors (including the oxygen sensor, if installed) and actuators, the exhaust gas recirculation system and its associated sensors, the positive crankcase ventilation valve, and the evaporative emission system (excluding the crankcase air filter) and its associated sensors. The proposed list of critical emission-related components consists of relatively few items, thus minimizing the burden on the manufacturers.

It is worth noting that for light-duty vehicles, none of the components currently identified as critical have allowable maintenance intervals falling within the 50,000 mile useful life period established for those vehicles. Therefore no showings of reasonable likelihood, as are discussed below, would be required for these vehicles. The allowable maintenance intervals proposed for light-duty trucks and gasoline-fueled heavy-duty engines, with the exception of those for exhaust gas recirculation systems and positive crankcase ventilation valves, fall very close to the end of these vehicles' useful life period. EPA expects that, as a practical matter, most manufacturers would simply extend the intervals by the slight additional mileage necessary to eliminate the requirement for critical emission-related maintenance during the useful life period. For heavy-duty diesel engines, only particulate traps, exhaust gas recirculation systems, and electronic engine controls would be affected.

For those components specified as critical and requiring maintenance during the useful life period, manufacturers would be required to demonstrate the likelihood that recommended maintenance will actually be performed in-use. The proposed regulations would allow manufacturers to demonstrate this likehood in five specific ways.

First, if data presented to EPA establish that as emissions increase due to lack of maintenance, vehicle performance will quickly deteriorate to a point unacceptable for typical driving that would be considered adequate assurance that the maintenance would be performed in-use. Second, for those critical emission-related components which have been in service for sufficient time to to have accumulated in-use experience, survey results showing that proper maintenance is currently being performed by at least 80 percent of vehicle/engine owners would fulfill the reasonable likelihood requirement. Third, visible signals could be installed to stimulate maintenance. This provision is similar to, but is intended to be more effective than, the requirement that has been in effect for some time for exhaust gas recirculation systems in light-duty applications. As described below, two warning lights would be involved, which could not be easily reset without performing the requiring maintenance.

The fourth of demonstrating the reasonable likelihood of maintenance would apply to those critical maintenance items for which there is no prior in-use experience. In such cases, the manufacturer could choose to market up to 200 randomly selected vehicles or engines without the signals described above and monitor the performance of the critical maintenace item by the owners. If such monitoring showed that the maintenance is performed by at least 80 percent of owners, the reasonable likelihood requirement would be considered satisfied. This option would be restricted to two consecutive model years, and could not be repeated until any previous surveys under this option are completed. If more than one engine family were involved, the random sample would be sales-weighted so as to be representative of all families in question.

The last specified method for a manufacturer to meet the reasonable likelihood requirement would be for the manufacturer to provide the critical emission-related maintenance at no cost to the owner. If it were clearly stated in the maintenance schedule provided to the purchaser that required maintenance on a given critical emission-related component will be performed without cost to the owner, then EPA believes that such maintenance would be performed by enough owners to satisfy the reasonable likelhood requirement.

Finally, other methods of establishing the reasonable likelihood of critical maintenance items being performed in-use could be used by the manufacturer, if approved in advance by the Administrator. Further details regarding all of these options may be found in the draft regulations appearing at the end of today's notice.

EPA is also taking this opportunity to deal with three other allowable maintenance issues. First, based upon limited survey data obtained by the Agency and available in the docket, it appears that, at least for light-duty vehicles, the currently employed system of warning lights to signal the need for maintenance is not effective. Since in some cases the light may not remain on long after startup, most owners appear to ignore the signal and fail to have the required maintenance performed. The Agency wants to improve this situation, and is proposing that warning lights remain permanently on until the maintenance is completed, and not be easily defeatable. Other measures are also being proposed, such as the content of the message to be displayed by the warning signal and a second lighted message. This second lighted message would come on after a prescribed mileage (1,000 miles) has elapsed since the first lighted signal went on, if the maintenance has not been performed. The Agency desires comment on this issue and ways to improve the effectiveness of maintenance indicator systems.

It should also be noted that resetting these maintenance indicator lights without actually performing the required maintenance would be considered by EPA to be tampering. EPA considers these lights to be an integral element of vehicle design, and resetting them without performing the required maintenance would be considered tampering under the provisions of section 203(a)(3) of the Act.

The second additional issue involves some needed clarification of the relationship between maintenance performed or specified on vehicles or engines used for durability testing and maintenance recommended to purchasers in their owner's manual. The durability testing program and related evaluation of emissions deterioration rates are intended to simulate driving and use patterns typical of in-use vehicles. Maintenance performed or specified on durability systems is also intended to correspond to that which will be recommended to the ultimate purchaser. In the current wording of the regulations for allowable maintenance and for preparation of maintenance instructions, this relationship has sometimes been misunderstood.

Therefore, EPA proposes revision of the wording to make it clear that under normal driving conditions, no maintenance can be recommended to owners beyond that performed or specified for durability testing. The definitions of "emission-related maintenance" and "non-emission-related maintenance" are also proposed to be modified to make this relationship clear. Supplemental maintenance would be permitted only under adverse conditions.

Lastly, today's proposal clarifies the distinction between maintenance and inspections. An inspection does not constitute maintenance, and inspections to detect components requiring service or replacement are not items of scheduled maintenance. However, inspection instructions may lead to the discovery of failed emission control components. Hence EPA does not wish to discourage their inclusion in instructions to owners, provided that they are not represented to be prerequisite to an owner's claim for warranty and recall repairs. Therefore, the proposed regulations allow the inclusion in the maintenance instructions of recommended inspections, provided that the instructions clearly state that the owner need not perform the inspections in order to take advantage of any emission warranty or recall.

2. Averaging of Heavy-Duty Diesel Engine Particulate Emissions

Background. Today's notice proposes that an averaging program be established for determining compliance with the proposed particulate emission standards for heavy-duty diesel engines. This program is proposed to take effect beginning with the 1990 model year, coincident with the proposed lowering of the applicable particulate emission standards to 0.25 g/BHP-hr at low-altitude and 0.30 g/BHP-hr at high-altitude. The averaging program would not apply to engines used in urban buses, which would be required to individually meet the applicable 1990 standards. The reason for this exclusion, as has been discussed earlier, is to insure the maximum degree of control for these predominantly urban engines and prevent the possibility that traps would be left off of urban buses through the use of averaging.

This program is, in all substantive aspects, patterned after the particulate averaging program for light-duty diesels. That program was implemented by a final rule published July 21, 1983 (48 FR 33456). Before describing the program, it is appropriate to briefly recount the rationale underlying mobile source emissions averaging. More information may be found in the light-duty diesel averaging final rule.

An emissions averaging program increases the affected manufacturer's flexibility in complying with emission standards. This increase in flexibility can be accomplished without appreciable loss of environmental benefits. Averaging would allow manufacturers to optimize the trade-offs and costs involved in reducing particulate emissions on an engine family-specific basis. Manufacturers would be able to tailor emission control systems and combinations of systems, to those best suited for each application. The most expensive particulate control strategies (trap-oxidizers) could be applied to those engine families where the benefits are the greatest and/or the risks of failure are the lowest. The ability to assign different emission limits to different engine families would also mean that the chance of any engine family being forced out of production due to technological or cost problems is significantly reduced.

Under averaging, the differences in the efficiency and cost of different control systems could be further utilized to reduce costs by removing the traps from some engine families, in favor of upgrading the equipment on other engine families to offset the resulting increase in emissions. Although the more efficient hardware is more costly, this should be more than outweighed by the savings on the total number of systems required. Emissions from some engine families could increase while those from other families decrease; on average, they would still be meeting the same standard, and the margins to account for such factors as in-use deterioration and selective enforcement audits would be the same. In other words, averaging could change the technology mix used to meet the proposed standards without appreciably affecting the level of overall emissions, which would be the same as that without any averaging program.

One issue raised during the development of the light-duty particulate averaging program that deserves mention in this context is the impact of averaging on equity between manufacturers. While no averaging program can be designed to be entirely without competitive impact (*i.e.*, the benefits to a large manufacturer with a diverse product line will generally exceed those to a small manufacturer marketing only one, or a few, engine families), EPA believes that the averaging program proposed here would largely avoid such problems. EPA also believes that the benefits of this program, in terms of reduced overall costs of compliance, would more than compensate for whatever inequities may result. However, EPA is still open to comment in this area. EPA specifically solicits comment as to the expected competitive effects of the averaging program, and on ways to further reduce such effects without compromising the baisc integrity of this approach to more cost-effective particulate control.

Description of the program. The program is most clearly presented in terms of the two aspects of compliance which would exist: Compliance by engine families with their individual particulate emission limits, and compliance by the manufacturer with the applicable particulate emission standards.

Compliance with family particulate emission limits. Manufacturers would determine particulate emission limits for each heavy-duty diesel engine family to be produced in a given model year. These limits would be set to one one-hundredth (0.01) of a gram precision, and would have the same relationship to an engine family as emission standards currently have to all engine families taken as a whole. The criteria used to distinguish engine families as unique would remain unchanged.

EPA believes that it is appropriate to limit, in some way, the maximum level of particulate emissions from any specific engine family. Thus, EPA proposes requiring all of the family particulate emission limits to be set at levels not greater than a ceiling, above which no engine family could be certified. The proposed ceilings are 0.60 g/BHP-hr for low altitude and 0.72 g/BHP-hr for high altitude. With the ceilings set at the particulate standards in effect for the 1987 through 1989 model years (when averaging is not yet in effect), all engine families would already be in compliance with the ceiling levels, and no heavy-duty diesel engine family should have any difficulty obtaining certification. These ceilings are high enough, relative to the applicable particulate standards, that EPA sees little or no impact on the flexibility available to the manufacturers.

As in the light-duty particulate averaging program, it would be the family emission limit determined by the manufacturer that would be enforced by EPA. These limits are what would be averaged in determining compliance with the applicable standards, as explained below; certification or other test data would not be used in the averaging calculations.

Also as in the light-duty case, manufacturers would be required to

label each engine, either on a new label or by an addition to an existing label, with the applicable emission limit for that engine family at the time that the engine was produced. In this way, EPA would be able to ensure that every individual engine can be associated with its proper emission limit throughout its life, even if the manufacturer were to change the emission limit applicable to that family part way through the model year (as discussed below).

Compliance with the 1990 model year particulate standards. As in the light-duty particulate averaging program, compliance with the applicable standard would be determined by calculating a production-weighted average emission level. This was a straightforward process for light-duty diesels, and was only slightly complicated by the averaging together of light-duty diesel vehicles and trucks permitted at the manufacturer's discretion.

The problem of determining compliance for heavy-duty diesel engines, however, would be complicated by other factors. These are the varying useful life periods to which different subcategories of heavy-duty diesel engines are certified, and the difference stemming from the use of g/BHP-hr as the units for heavy-duty emission standards, as opposed to the g/mi units applicable in the light-duty case.

In order to deal with the varying useful life periods for heavy-duty diesel engines, EPA is proposing that the averaging of particulate emissions be restricted to within each of the three useful life subclasses established in the November 16, 1983 final rule (48 FR 52170). Each of the subclasses (light, medium, and heavy) would be required to comply with the particulate emission standards, but only emissions from those engine families in the same subclass could be averaged together. Alternatively, EPA might allow averaging across subclasses factoring useful-life values into the averaging calculations, so that total fleet emissions remain constant. However, if a non-trap standard (0.40 g/BHP-hr) is set for line haul trucks to reflect their proportionally smaller contribution to urban emissions, then the Agency would not allow averaging between these engines and other heavy-duty diesels.

Emission standards for heavy-duty engines are expressed in terms of mass of pollutant emitted per unit of work performed, rather than per unit of distance travelled, since heavy-duty engine applications are based on work to be performed. This avoids penalizing engines which perform more useful work while travelling the same distance. Since different heavy-duty engines in compliance with the same emission standard can have markedly different lifetime emissions, due to the variations in work performed, normalization of average emissions to account for this is required to maintain air quality benefits equivalent to those that would occur without averaging.

EPA has developed a method by which a manufacturer's production-weighted average particulate emission level could be normalized to account for engine power. The purpose of this method is to weigh the particulate contribution from each engine family not only by production volume, but also by the useful work that the engines perform (the rated power). The proposed weighting procedure is given in the following equation:

$$\text{Weighted particulate level} = \frac{\sum_{i=1}^{n} \text{PROD}_i \times \text{HP}_i \times \text{FEL}_i}{\sum_{i=1}^{n} \text{PROD}_i \times \text{HP}_i}$$

Where:

i = subscript, denoting individual engine families,

PROD_i = model year production of family i (units),

HP_i = production-weighted rated power of family i (horsepower), and

FEL_i = family i particulate emission limit (g/BHP-hr).

The production-weighted rated power for each family would be defined as the production-weighted average of the rated power of all of the configurations included within the family. The particulate emission limit for each family would be determined by the manufacturer, would be specified to 0.01 g/BHP-hr precision, and would be required to be less than or equal to 0.60 g/BHP-hr at low altitude or 0.72 g/BHP-hr at high altitude, as described above. In order to demonstrate compliance, the weighted particulate emission level would be required to be at or below the applicable standard (0.25 g/BHP-hr at low altitude, 0.30 g/BHP-hr at high altitude).

Under the averaging program, each manufacturer would be given complete flexibility in deciding whether to apply averaging to its production of heavy-duty diesel engines. For those manufacturers electing to use averaging, EPA would grant a certificate of conformity to each family that demonstrates compliance with its particulate emission limit. It would be a condition of the certificate that the manufacturer's weighted particulate emission level meet the applicable particulate emission standard (low or high altitude) at the end of the model year. The certificate(s) of conformity would be rendered void *ab initio* at the conclusion of the model year for those engines causing any excedance of the applicable particulate standard. For more detail regarding conditional certification and EPA's intent in handling remedies and/or penalties in the event that the terms of such conditions were violated, see the light-duty particulate averaging final rule (July 21, 1983, 48 FR *at* 33459).

During production, a manufacturer would have full responsibility for taking whatever action may be necessary to ensure that its heavy-duty diesel engine fleet meets the applicable standard at the conclusion of model year production. As discussed below, this might involve recertifying some families to new emission limits, or adjusting production volume in response to observed sales. In any event, it would only be after model year production has been completed that EPA would enter the process in order to verify that the family limits, when weighted by production and rated power as explained above, comply with the applicable particulate standard.

There are a number of ways in which a manufacturer could manipulate its heavy-duty diesel engine fleet during the model year to assure compliance with the particulate standard. The possibility will exist, as it does currently, for a manufacturer to alter the engine operating characteristics or hardware in such a way as to create a new engine family. Under the proposed averaging program, this would allow the establishment of a revised family particulate emission limit. EPA would also extend to heavy-duty diesels the flexibility of allowing the creation of new family particulate emission limits without making any changes to the engine. This option could prove to be useful to a manufacturer which finds that the production emission levels of an engine family were sufficiently below the originally determined family emission limit that the limit could be lowered without physically altering the engine. In changing a family particulate emission limit, however, the manufacturer could not establish a revised limit lower than that which

could be demonstrated by the certification data. Any time that a family limit were changed, EPA would issue a new certificate applicable to subsequent production of engines in that family, and each engine produced thereafter would need a revised label recording this new family emission limit.

Restrictions on averaging. As proposed today, the averaging program for heavy-duty diesel particulate emissions contains two significant restrictions: regional subdivisions and the exclusion of urban buses. For the purposes of this program, there are three defined regions: California, 49-state low altitude, and 49-state high-altitude. Averaging could be chosen by the manufacturer and applied in accordance with the provisions just described for one or all of these regions (to the extent not precluded by California's own regulations). However, heavy-duty diesel engine families designated for sale and use in one of these regions could not be averaged together with families intended for sale and use in another region.

The rationale for this decision, which is discussed in detail in the light-duty diesel averaging final rule, derives from the fact that the impact on ambient air quality in a given area is essentially the result of the average emissions of the vehicles and engines in that area. High-altitude areas and California have different emission control requirements from those of the rest of the country. Since certain "trade-offs" of emissions might occur under a broad national averaging program, it is necessary to exclude vehicles and engines marketed in California or in high-altitude areas from the nationwide averaging program. In order to minimize the impact of this restriction, however, EPA would allow averaging within any one of these areas (to the extent not precluded by California's own regulations), as noted above.

For similar reasons, EPA is proposing to exclude from the averaging program those heavy-duty diesel engines used in urban buses. As already noted, particulate emissions from these buses play a key role in central city ambient air quality and, in addition, are highly visible to the public. These emissions must, therefore, be controlled as stringently as possible. However, if urban buses were included in the averaging program, manufacturers might be able to avoid applying trap-oxidizer technology to those vehicles. Under these circumstances, EPA believes it appropriate to exclude urban buses from the averaging program.

EPA recognizes that these restrictions on averaging would reduce the flexibility available to the manufacturers somewhat, compared to a nationwide averaging program where all vehicles and engines could be averaged together. However, such restrictions would impose no new burdens compared to the present non-averaging program. The mechanisms to determine the emission characteristics and location of final delivery of any given vehicle or engine already exist due to the labeling and recall provisions, and separate resources must already be devoted to the development and certification of vehicles and engines to satisfy the distinct California and high-altitude standards. Therefore EPA believes that the regional restrictions and exclusion of urban buses would not substantially affect the overall utility of the proposed averaging program.

3. High-Altitude Heavy-Duty Diesel Engine Particulate Standards

The proposed high-altitude particulate standards for heavy-duty diesel engines are 0.72 g/BHP-hr for model year 1987 and 0.30 g/BHP-hr (0.12 g/BHP-hr for urban buses) for model year 1990. These standards are proportional to the corresponding low-altitude standards. The method of determining levels for the high-altitude standards is to apply the ratio of uncontrolled low- to high-altitude emissions to the low-altitude standard. This has the effect of requiring the same degree of control from vehicles and engines at each altitude.

Scant data are available on the effect of altitude on light-duty diesel vehicle particulatae emissions, and no such data are available for heavy-duty diesel engines. Limited light-duty data indicate a 50 percent increase in diesel engine particulate emission at high altitudes.[2] However, the engines in these vehicles were all naturally aspirated. Turbocharged engines should be affected to a much lower degree (*i.e.*, 0 to 10 percent increase), since turbocharger boost is controlled in terms of absolute pressure and should automatically compensate for the lower air density at high altitude. Since the majority of heavy-duty diesels are turbocharged, the overall particulate increase at high altitude should be approximately 20 percent. EPA solicits comment on this level of the proportional increase in heavy-duty diesel particulate emissions at high altitudes, and is especially interested in obtaining relevant data.

In addition to the technologies discussed in the Alternatives section (including trap-oxidizers), high-altitude engines may also require the use of an aneroid pressure sensor and additional race control linkage on those engines not equipped with turbochargers (turbocharged heavy-duty diesel engines already have boost pressure sensors which can be made to adjust for high-altitude operation) in order to comply with the particular standards. The widespread use of electronic engine controls anticipated by 1990 for emission control and other purposes, in conjunction with the other technologies discussed, should make compliance with the high-altitude particulate standards no more difficult than compliance at low altitude. Fuel economy effects on high-altitude heavy-duty diesels should be approximately the same as those at low altitude.

4. High-Altitude Light-Duty Truck Emission Standards

Standards for NO_x, idle CO and particulate emissions from light-duty trucks sold for principal use at high altitude are also proposed by today's notice. These standards will complete action on the high-altitude emission standards for light-duty trucks. Each is briefly discussed below.

NO_x The standards proposed for NO_x emissions from 1987 and later model year high-altitude light-duty trucks are the same as those proposed for low-altutude areas: 1.2 g/mi for light-duty trucks up to and including either 6,000 lbs gross vehicle weight or 3,999 lbs equivalent test weight, and 1.7 g/mi for light-duty trucks over both 6,000 lbs gross vehicle weight and 3,999 lbs equivalent test weight. Since NO_x emissions do not tend to increase with altitude, no increase in the numerical level of the standards is proposed. The impacts of these proposed standards are quite similar to those discussed in greater detail for low-altitude light-duty trucks.

Idle CO. This notice also proposes that an idle CO emission standard be implemented for 1987 and later model year light-duty trucks sold for principal use at high altitude. Such a standard is being proposed here because EPA desires to maintain consistency in the low- and high-altitude light-duty truck emission standards, and because it was inadvertantly left out of the high-altitude light-duty truck proposed rule (45 FR 5988, January 24, 1980). The need for and benefits from an idle CO standard at high altitude are similar to the need and benefits at low altitude. (A more detailed discussion of the idle CO standard for light-duty trucks can be found in the Summary and Analysis of

[2] "Controlling Emissions from Light-Duty Motor Vehicles at Higher Elevations—A Report to Congress," EPA–460/3–83–001, U.S. EPA, OAR, OMS, February 1983.

Comments to the final rule for revised heavy-duty engine HC and CO standards.[3] Although that document deals with the idle CO standard at low-altitude, the discussion is also applicable to the proposed high-altitude standard.)

The proposed standard is 0.50 percent of exhaust gas flow at curb idle, which is the same as the idle CO emission standard for light-duty trucks at low altitude. The method used to derive this standard is discussed below.

The baseline level of light-duty truck idle CO emissions at low altitude was determined to be 4.7 percent of exhaust gas flow. To determine the absolute change in idle CO emissions with increased altitude, the same fleet of 1970 model year light-duty vehicles used to determine the effects of altitude on HC and CO exhaust emissions was used. (Data from these vehicles were used since specific data characterizing the effect of increased altitude on light-duty truck emissions are not available.) The change was an increase of 0.4 percent of exhaust gas flow; thus the high-altitude baseline light-duty truck idle CO level was estimated to be 4.7 plus 0.4, or 5.1, percent.

The low-altitude light-duty truck idle CO standard represents a 90 percent reduction from the baseline, rounded to 0.50 percent. A 90 percent reduction applied to the high-altitude baseline derived above yields a standard of 0.51 percent. This is not significantly different from the low-altitude standard, so EPA has decided to propose the same standard for high altitude.

EPA believes that this standard will impose no discernible burden on the affected manufacturers. In fact, as with low-altitude light-duty trucks, EPA anticipates that for any light-duty truck meeting the high-altitude exhaust CO emission standard, compliance with the idle CO standard in the 1987 model year should be virtually automatic. Thus, no significant need for leadtime exists. EPA does not expect this standard to have any impact on cost or fuel economy.

particulate. The proposed particulate standard for high-altitude light-duty trucks, in 1987 and later model years, is 0.26 g/mi. As was the case with the idle CO standard, proposal of this standard was inadvertently omitted from the light-duty truck high-altitude rulemaking. Although diesel particulate tends to increase with altitude, EPA Is proposing the same standard for high-altitude as already exists for low-altitude. The general reason for adjusting a standard for altitude is to allow use of the same control technology for both low- and high-altitude. In this case such an adjustment is not necessary to attain that goal. The only impact of using the same standard at low- and high-altitude would be the need for a somewhat higher fraction of trap-equipped vehicles at high-altitude. This approach is also consistent with that used for light-duty diesel vehicles, which have the same particulate standard at low- and high-altitude.

EPA believes that this standard will have little impact on manufacturers' compliance plans. Although they would not otherwise have been required to meet any high-altitude particulate requirements, the Agency expects that trap useage would still have been carried over to high altitude vehicles as a matter of course. This proposal insures that such carryover will indeed occur.

5. Heavy-Duty Engine Test Procedures Revision

Today's notice proposes several revisions to the heavy-duty engine test procedures contained in Subpart N of 40 CFR Part 86. These are the inclusion of particulate testing and measurement procedures for heavy-duty diesel engines revisions pertaining to the measurement and calculation of NO_x emissions, and other minor technical corrections.

The incorporation of particulate testing procedures for heavy-duty diesel engines is fundamentally related to the proposed etablishment of particulate emission standards. This action will require numerous revisions within Subpart N, which cannot all be detailed here. The procedure is basically the same as was proposed in the heavy-duty diesel particulate proposal (46 FR 1910); only the changes that have been made since that time are discussed below.

The particulate measurement procedure requires a dilution tunnel and proportional mass sampling of the diluted exhaust stream. This could be accomplished in either of two ways: through the use of two constant mass sampliers, or through the use of a variable mass sampler in conjunction with the standard CVS. The temperature of the diluted exhaust at the location of the particulate filter would have to be kept below 125 °F (51.7 °C) at all times.

Provisions for measuring background particulate levels have been incorporated into the test procedure, and the procedure has been made consistent with various minor changes that were made to the light-duty test procedure before it was promulgated. For complete details, the reader is referred to the draft regulations appearing at the end of today's notice.

Two technical aspects of the measurement and calculation of heavy-duty engine NO_x emissions were commented on by the manufacturers in their responses to earlier proposals. The first deals with bag versus continuous sampling procedures, and possible adjustments to the NO_x standards depending on the method chosen. The NO_x standards proposed today and discussed in preceding sections are technology-based (*i.e.*, based on test data). All of the gasoline-fueled heavy-duty engine NO_x data used in determining the level of the standards were obtained by bag sampling, while all of the heavy-duty diesel engine data were obtained using direct (continuous) sampling procedures. The measurement techniques characteristic of each engine type are accounted for in the standards, even though they have the same numerical values for both engine types.

EPA expects that gasoline-fueled heavy-duty engine NO_x measurements will continue to be performed using bag sampling procedures, while heavy-duty diesel engine NO_x measurements will continue to be performed using direct sampling. The proposal recognizes the likelihood of this, and bases the respective gasoline-fueled and diesel heavy-duty engine NO_x standards on the corresponding procedures. A correction factor has also been included to be applied to gasoline-fueled heavy-duty engine NO_x data obtained through direct measurement. Since EPA proposes allowing gasoline-fueled heavy-duty engine manufacturers the option of using direct sampling for NO_x measurement, this factor will be applied to all gasoline-fueled heavy-duty engine NO_x data obtained using direct sampling. Since no heavy-duty diesel engine manufacturers use bag sampling procedures, no provisions for such an option are proposed today.

The other technical aspect of the NO_x test procedure on which EPA received comment is the humidity correction factor. EPA has derived such a factor, which is already included in Subpart N, on the basis of current NO_x levels and humidity specifications. At this time, it is still uncertain whether a factor derived from current levels can be applied to the much lower model year 1990 NO_x levels. EPA will be collecting additional data that will be used to further evaluate the applicability of this correction factor, in conjunction with the ongoing heavy-duty emission factors testing program. As part of today's

[3] "Summary and Analysis of Comments on the Notice of Proposed Rulemaking for Revised Gaseous Emission Regulations for 1984 and Later Model Year Light-Duty Trucks and Heavy-Duty Engines," pp. 134–139, U.S. EPA, OAR, OMS, July 1983. This document is available in Docket No. A-81-11 (see "Addresses").

proposal, EPA solicits comment and supporting data on the appropriate level of a humidity correction factor to be applied to NO_x measurements under the proposed standards and on the need for changing the existing factor.

EPA also requests comment on several potential improvements to the transient test procedure and on the details of such revisions. These are: (1) relaxing one required cycle performance statistic (standard error-horsepower) for diesel engines, (2) adding a standard calibration procedure for the throttle control system for gasoline-fueled engines, and (3) changing the primary torque measurement method to an electronically-compensated case-load system.

Finally, Subpart N sections directly affected by other provisions of today's proposal are reorganized in the draft regulations to improve logical order and readability. These changes have no substantive effect.

6. In-Use Durability Program

The heavy-duty engine NO_x advance notice (46 FR 5838) indicated EPA's intent to propose revisions to the durability testing procedures applicable to light-duty trucks and heavy-duty engines. The focus of these revisions was the use of an in-use fleet of production vehicles or engines to determine deterioration factors.

EPA has decided not to propose such a program at this time. The new durability testing requirements were intended to provide greater assurance that the deterioration factors used in the certification process adequately represented in-use emission deterioration. However, since the in-use durability program was first proposed, there have been several changes that may act to accomplish that goal.

The heavy-duty engine manufacturers and EPA have begun a cooperative testing program aimed at developing more accurate and representative in-use heavy-duty engine emission factors. These factors are used in the analyses by which air quality improvements resulting from emission control regulations are projected. EPA is encouraged both by the goals of this program and the cooperative framework under which it is being conducted. Such testing will provide EPA with data on in-use emissions performance, and enable the Agency to decide at some point in the future whether an in-use durability testing program is needed.

Second, an important regulatory change has been promulgated since in-use durability testing was proposed. This is the change to full-life useful life promulgated in the final rule for revised heavy-duty engine HC and CO standards (48 FR 52170). Since deterioration factors must now be based on the full useful life of light-duty trucks and heavy-duty engines, and since manufacturers have increased liability for the in-use performance of their vehicles or engines, compliance with applicable emission standards in-use is more likely. Full-life requirements will themselves focus manufacturers' attention on out-year emissions performance.

Third, EPA notes that under the current full-life durability testing requirements, manufacturers are given full responsibility not only for determining the deterioration factors, but also for the method used in those determinations, subject only to the restraint that testing be designed and conducted in accordance with good engineering judgment to assure that the vehicle or engine will comply with the applicable emission standards in actual use for the useful life of the vehicle or engine. This means that the manufacturers have the opportunity to generate accurate in-use emissions performance data with considerably greater flexibility than the originally proposed in-use durability program would have allowed, and to use this information to improve the representativeness of the deterioration factors submitted for certification. By doing so, the industry can demonstrate good faith efforts at compliance with the current regulations, thereby avoiding the need for additional regulatory action.

As an example, one heavy-duty engine manufacturer (Cummins) responded to the proposed in-use durability testing requirements with a proposal likely to aid in attaining the goals of increased accuracy and representativeness of deterioration factors. Basically, this proposal would take heavy-duty engines which have accumulated in-use service, remove them from the heavy-duty vehicles in which they had been used, then test them for emissions deterioration. These test results would then be used in the development of accelerated laboratory test procedures for other engine families, to more accurately simulate in-use emissions deterioration. EPA is encouraged by the nature of this initiative and believes that it reflects a serious effort at complying with both the letter and the intent of the current requirements.

As was indicated in many of the comments received in response to the advance notice, the expenses and difficulties associated with implementation of the in-use durability program would be significant. This is particularly true for heavy-duty engines, since the logistics of locating in-use engines for emission testing would at best be difficult. The expense could be very high; in addition to the costs to the manufacturer, there would be considerable expense and inconvenience to the owner/operator of a heavy-duty vehicle solicited for testing. In fact, it is possible that manufacturers would have difficulty persuading owner/operators to give up use of their heavy-duty engines for the necessary testing. While EPA does not believe that these problems are insurmountable, they are significant, and in light of the other developments discussed above, they argue for a delay in further revisions to the durability testing requirements.

Although EPA is not proposing the in-use durability program today, this does not mean that such a program might not be proposed at a later date. If continued monitoring of heavy-duty engine emission test results from in-use cooperative testing programs reveals that the deterioration factors determined and submitted by the manufacturers are unrepresentative of in-use emissions deterioration, EPA reserves the option of later proposing a program similar to that described above.

7. Technical Corrections

On November 16, 1983, EPA published a final rule for revised HC and CO emission standards for 1985 and later model year light-duty trucks and heavy-duty engines (48 FR 52170). That rulemaking involved extensive revisions to Subparts A and N of 40 CFR Part 86, as well as lesser revisions to other subparts. Since that time, EPA has determined that two technical errors occurred in those regulations as published. In § 86.085–25(b)(1)(iii)(B), the maintenance intervals for light heavy-duty diesel engine injectors and turbochargers were intended to be of equal stringency to those for light-duty trucks, based on the closeness of their respective useful life periods. However, those intervals were incorrectly specified at the same stringency as those applicable to medium and heavy heavy-duty diesel engines. EPA proposes correction of this error, at § 86.087–25(b)(4)(ii) in the draft regulations. In § 86.087–28(b)(6)(ii)(C), the definition of "line crossing" refers incorrectly to the interpolated 4,000- and 5,000-mile points. This is proposed to be corrected to refer to the interpolated 4,000- and 120,000-mile points. A typographical error in § 86.087–28(b)(4)(ii) is also proposed to be corrected here.

III. Impacts of the Proposal

A. Environmental Impact

The standards contained in today's proposal are intended to reduce NO_x and particulate emissions to the atmosphere. EPA has prepared air quality analyses that estimate the improvements in ambient air quality which would result from implementation of these standards. The highlights of these analyses are summarized in this section. The complete analyses are included in the Draft Regulatory Impact Analysis, and the "Diesel Particulate Study,"[1] both available in the docket referenced above. The Draft Regulatory Impact Analysis incorporates the NO_x Pollutant Specific Study, concerning the effects of NO_x emissions from heavy-duty vehicles and engines on the public health and welfare, as required by section 202(a)(3)(E) of the Act.

1. Particulate

The aim of the standards in today's proposal is to hold heavy-duty diesel particulate emissions at or below 1983 levels, thereby preventing significant growth in total diesel particulate emissions.

Lifetime per-vehicle particulate emissions from heavy-duty diesel engines would be reduced substantially by implementation of today's proposed standards. Current lifetime per-vehicle particulate emissions from heavy-duty diesels average about 0.78 tons. Under the proposed 1987 standard of 0.60 g/BHP-hr, these emissions would drop by more than 14 percent, to 0.67 tons per vehicle. The 0.25 g/BHP-hr standard proposed for 1990 would further reduce these average lifetime per-vehicle emissions to about 0.34 tons. Thus, lifetime per-vehicle emissions after 1990 would be about 56 percent lower.

The impact of these reductions on total particulate emissions from all in-use heavy-duty diesel engines in 1995 would be significant. Despite the expected growth in diesel sales and vehicle miles travelled between 1983 and 1995, total particulate emissions from heavy-duty diesels in 1995 are projected to be about 5 percent below 1983 levels, and 50 percent below projected 1995 levels without this control.

In spite of the reductions expected in heavy-duty diesel emissions, overall diesel particulate levels may continue to increase between 1983 and 1995. Best estimate growth projections indicate an increase in total diesel particulate of over 40 percent from 1983 to 1995, attributable to growth in diesel light-duty vehicle and light-duty truck emissions.

The discussion of the environmental need for particulate control earlier in today's notice stated that in 1995, without new standards, the urban concentration of fine suspended particulate matter from diesels would be about 2 to 8 $\mu g/m^3$, up from current concentrations estimated at about 1 to 3 $\mu g/m^3$. The standards proposed today would limit the increase otherwise expected in overall emissions, so that the resulting increase in ambient air concentration would also be reduced. In particular, 1995 ambient concentrations of diesel particulate would be reduced by about 1 to 3 $\mu g/m^3$, to a range of about 1 to 5 $\mu g/m^3$.

Without additional control of diesel particulate, EPA projected that visibility in large urban areas would be reduced by about 21 percent by 1995, compared to visibility assuming no diesel particulate emissions. The visibility reductions in smaller urban areas was projected to be 3 to 8 percent. The particulate control represented by today's proposed standards is projected to reduce these impacts, to about 14 percent in large urban areas and to between 2 and 5 percent in smaller urban areas. With regard to soiling, the proposed standards should result in a significant cost savings.

2. NO_x

The proposed NO_x standards would significantly reduce light-duty truck and heavy-duty engine NO_x emissions. The projected emission reductions for each class of vehicle and engine are described below, followed by the impacts on attainment status and average ambient NO_2 concentrations.

Light-duty trucks. The 1.2 and 1.7 g/mi light-duty truck NO_x standards would reduce lifetime per-vehicle NO_x emissions by nearly half from current levels. Under the current 2.3 g/mi standard, gasoline-fueled and diesel light-duty trucks emit an average of about 0.3 tons of NO_x over their full useful life. The proposed standard would reduce these lifetime per-vehicle emissions to about 0.17 tons for light-duty trucks meeting the 1.2 g/mi standard, representing a reduction of about 42 percent, and to about 0.21 tons for those light-duty trucks meeting the 1.7 g/mi standard, representing a reduction of about 30 percent.

These reductions, when combined with estimates of annual sales and vehicle miles travelled, reveal that total NO_x emissions from light-duty trucks in 1995 would be reduced by about 29 percent from the levels projected without this control, in both low-and high-altitude areas. However, compared to 1980 levels, overall light-duty truck NO_x emissions would be virtually unchanged in 1995, since the reductions in per-vehicle emissions would offset projected growth in vehicle miles traveled. Taking into account the contribution of light-duty trucks to total NO_x emissions, 1995 NO_x emission inventories would be about 2 percent lower than those projected without these standards.

Gasoline-fueled heavy-duty engines. The NO_x standards proposed for heavy-duty engines would reduce lifetime emissions from gasoline-fueled heavy-duty engines by nearly half after 1990. Lifetime emissions of NO_x from these engines are about 1.19 tons under the current standard. This figure would drop to about 1.04 tons with the 1987 standard and to about 0.69 tons with the 1990 standard, representing reductions of 13 and 42 percent, respectively.

Total NO_x emissions from all gasoline-fueled heavy-duty engines in use in 1995 would be reduced by about 30 percent from levels projected without further control. This results in total 1995 NO_x emissions inventories being about one percent lower than those projected to occur without these standards.

Heavy-duty diesel engines. The projected reductions in NO_x emissions from heavy-duty diesel engines are comparable, on a percentage basis, to those from gasoline-fueled heavy-duty engines. These reductions would be much larger in absolute terms, however, illustrating the major role these engines play in overall NO_x emissions and the importance of controlling their emissions.

Under the current standards, average lifetime NO_x emissions from heavy-duty diesel engines are about 9.8 tons. The proposed 1987 standard would lower these emissions to about 8.3 tons, a reduction of 15 percent. Under the proposed 1990 standard, lifetime emissions would be further reduced to about 5.5 tons, a drop of 44 percent from current levels.

These reductions would lead to decreases in total 1995 heavy-duty diesel NO_x emissions of approximately 30 percent from levels projected without these standards. Compared to 1980, heavy-duty diesel NO_x levels would increase about 40 percent. Since these engines play such a dominant role in overall NO_x emissions, total 1995 NO_x emission inventories are projected to be about 10 percent lower than would be the case without this control.

Total impact of proposed NO_x standards. The primary National Ambient Air Quality Standard for NO_2 is an annual average concentration of 0.053 parts per million (ppm). The air

quality analysis examined six low-altitude and two high-altitude standard metropolitan statistical areas (SMSAs) that currently have annual average NO_2 concentrations of 0.040 ppm or greater, meaning that these areas are within 25 percent of the standard.

Without the NO_x control that will result from the new standards contained in this proposal, both of the high-altitude and three of the six low-altitude SMSAs are projected to be in non-attainment of the standard in 1995. In addition, two other low-altitude SMSAs are projected to have ambient NO_2 concentrations at the 0.053 ppm standard. Thus, only one of the eight SMSAs examined would be safely within the NO_2 standard.

The combined impact on total 1995 NO_x emissions inventories of all of the NO_x standards proposed today would be about a 13 percent reduction from levels projected without this control, although total NO_x emissions are still projected to increase by about 4 percent from the 1980 levels shown in Figure 2. These reductions are projected to improve average ambient NO_2 concentrations by 16 percent at low altitude and 17 percent at high altitude from the concentrations projected without this control. These benefits would improve the attainment status of the SMSAs considerably, essentially back to baseline year levels.

B. Economic Impact

The complete economic analysis of today's proposal is contained in the Draft Regulatory Impact Analysis, which is available in the docket. The highlights of that analysis are summarized here. All figures are in 1984 dollars and assume a 10 percent discount rate.

The costs of these regulations can be broken down into several components. The cost incurred by the manufacturers is the total of research and development, hardware, new test equipment, and added testing costs. These costs are generally recovered from consumers by their incorporation into the price of new vehicles or engines. The total, or lifetime, cost to the consumer is then the sum of the new price increase and any changes in the cost of operation and maintenance, based on changes in fuel consumption and increases or decreases in required maintenance over the life of the vehicle or engine. The aggregate cost of the nation is then derived from the cost to the consumer and the number of vehicles projected to be sold in a given period.

For light-duty trucks, the aggregate cost is calculated on a five-year basis (1987 through 1991). The aggregate costs for heavy-duty engines, however, are calculated over two three-year periods, 1987 through 1989 and 1990 through 1992. This is because the standards proposed for heavy-duty engines in this notice are at interim levels: the 1987 standards will be superseded by the 1990 standards, which in turn must be revisited in a later rulemaking. Aggregate costs are estimated each of the applicable three-year cycles, 1987 through 1989 and 1990 through 1992.

In the following summary, costs are estimated for each of the effected vehicle classes (light-duty trucks, and gasoline-fueled and diesel heavy-duty engines). The total cost of the regulations in today's proposal is then the sum of the costs by class of vehicle.

Light-Duty Trucks. As has been noted, the high-altitude idle CO Standard for light-duty trucks is not expected to result in any increase in cost to either the manufacturer or the consumer. The high-altitude NO_x and particulate standards for light-duty trucks, while not proportional, are based on the same technology that is expected to be used at low altitudes, and therefore are not expected to generate any significant increase in cost. Thus the light-duty truck costs result primarily from the revised NO_x standards.

The costs attributable to the new NO_x standards, for research and development and recertification testing expended prior to 1987, and for hardware on 1987 through 1991 model year light-duty trucks, are estimated to be $1.29 billion (undiscounted). All but about $27 million of this amount would be for hardware. This cost would translate to an increase of $44 to $87 in the estimated purchase price of an average new 1987 model year gasoline-fueled light-duty truck, and an increase of $35 in the purchase price of an average new 1987 model year light-duty diesel truck. No fuel economy impact or change in operating and maintenance costs is anticipated, so this also would represent the total cost to the consumer over the life of the vehicle.

Based on the best estimates of light-duty truck sales, the discounted five-year (1987 to 1991 inclusive) aggregate cost to the nation of the light-duty truck NO_x standards would be between $612 million and $1.08 billion. This would break down to $124 million for diesel light-duty trucks, and $488 to 965 million for gasoline-fueled light-duty trucks.

Gasoline-Fueled Heavy-Duty Engines. There are two NO_x standards proposed in today's notice for gasoline-fueled heavy-duty engines, to take effect in the 1987 and 1990 model years. The costs to the manufacturers and to consumers are outlined first for the 1987 standards, then for the 1990 standards relative to the costs for 1987 through 1989. The aggregate costs are based on the two three-years periods, 1987 through 1989 and 1990 through 1992.

The 6.0 g/BHP–hr NO_x standard for 1987 would require manufacturer expenditures of $1.5 million for research and development and recertificatioin testing prior to 1987. No retooling or hardware costs are expected, nor is there any need for new test equipment. Purchasers of new 1987 model year gasoline-fueled heavy-duty engines would see a first price increase of approximately $2 as a result. No changes in annual operating and maintenance costs are anticipated, and the fuel economy impact of this standard, if any, is expected to be very slight.

The more stringent 4.0 g/BHP–hr NO_x standard for 1990 and later would require additional industry expenditures of $17.4 million for additional research and development and recertification testing, and for hardware on 1990 through 1992 model year engines. Again, no need for additional test equipment is expected. These costs would increase the purchase price of new 1990 model year gasoline-fueled heavy-duty engines by $18 over the model year 1987 costs.

The three-year aggregate cost of the model year 1987 NO_x standards, discounted to 1987, would be $1.8 million. The three-year aggregate cost of the model year 1990 standard, discounted to 1990, would be $19.0 million. Expressed as an equivalent single lump-sum investment in 1987, the total six-year aggregate cost of the 1987 and 1919 NO_x standards for gasoline-fueled heavy-duty engines would be $16 million.

Heavy-Duty Diesel Engines. The cost estimates for heavy-duty diesel engines are more complicated, since both NO_x and particulate standards are proposed for 1987 and 1990. As in the preceding discussion of gasoline-fueled heavy-duty engine costs, cost estimates are presented for the 1987 standards and for the 1990 standards relative to the costs for 1987 through 1989.

The 1987 NO_x and particulate standards would require manufacturer expenditures of $29.0 million for research and development and for recertification testing prior to 1987. The cost of hardware to be used on 1987 through 1989 model year engines is estimated at $17.7 million. Thus, the total increase in manufacturer expenditures due to the 1987 standards would be about $46.7 million. Discounted to 1987, the cost would be approximately $49.8 million.

These costs would be recovered through an expected increase of $47 in

the purchase price of new heavy-duty diesel engines. Discounted lifetime operating costs could rise by up to $730, due to a maximum projected fuel economy penalty of 2 percent. The net discounted cost to the consumer per heavy-duty diesel engine thus would be estimated as being between $47 and $777. However, EPA believes that the fuel economy impact of the 1987 standard is likely to be less than this maximum projection, and will gradually be eliminated as new technology is introduced in subsequent model years.

With the implementation of more stringent NO_x and particulate standards in 1990, manufacturers would face additional expenditures of $866 million. The bulk of this amount would be represented by the cost of new hardware (primarily trap-oxidizers) on 1990 through 1992 model year engines. This is projected to boost the purchase price of new heavy-duty diesel engines by about $715 over 1989 costs. To provide some perspective on this figure, heavy-duty diesel engines cost between $2,000 and $12,000 each, and completed heavy-duty diesel vehicles can cost as much as $100,000. The lifetime cost of owning and operating a line-haul heavy-duty diesel is about $275,000. Thus, the cost of these standards are small with respect to total costs.

Taking a maximum projected fuel economy penalty of one to 4 percent into account, discounted fuel costs over the life of the engine would incease by between $365 and $1,461. EPA has very little data on which to base estimates of fuel economy penalties for heavy-duty diesel engines. Some applications, in both 1987 and 1990, may not suffer any fuel economy penalties; the estimates contained in this analysis are the maximum effects expected for any affected engines. In addition, any fuel economy penalties that might occur as a result of the 1990 standards should decrease, and eventually be eliminated, as more advanced technology is phased in and efforts to minimize fuel consumption are emphasized. Thus, the 2 percent (for 1987) and 4 percent (for 1990) fuel economy penalties included in this analysis should be considered as estimates o the upper bounds on possible fuel economy impacts.

Maintenance savings of $26 are expected to result from reduced replacement costs of exhaust pipes. Thus a net increase in operating and maintenance costs of between $339 and $1,435 would be expected, and the net lifetime cost to the owner of a heavy-duty diesel engine would be between $1,054 and $2,150.

The aggregate cost of the 1987 standards for the three-year period 1987 through 1989, discounted to 1987, is estimated to be $49.8 million. The aggregate cost of the 1990 standards, discounted to 1990 and representing the three years 1990 through 1992, is estimated to be $814 million. If the costs of the 1990 standards are also discounted to 1987, the total cost of these standards for heavy-duty diesel engines can be viewed as equivalent to a lump-sum investment of $661 million in 1987.

C. Cost Effectiveness

The methodology used to estimate the cost effectiveness of these standards is explained in detail in the Draft Regulatory Impact Analysis. The results of that analysis show that on an urban air quality basis, the control of diesel particulate emissions is cost effective relative to stationary source particulate control. Table 1 shows the cost effectiveness of the NO_x standards proposed today in relation to two other potential mobile source NO_x control strategies, and indicates that these standards are more cost effective than other potential programs for controlling vehicle NO_x emissions. The proposed light-duty truck NO_x standards, however, are the least cost effective of the proposed NO_x standards and may be more or less cost effective than control of stationary sources.

TABLE 1.—COMPARATIVE LIFETIME COST-EFFECTIVENESS OF MOBILE SOURCE NO_x CONTROLS

Mobile source NO_x control strategy	Cost effectiveness* (per ton)
Gasoline-fueled heavy-duty engines:	
(1987 standard)	15
(1990 standard)	55
Diesel heavy-duty engines:	
(1990 standard)	100–380
(1987 standard)	10–460
Diesel light-duty trucks	340
Gasoline-fueled light-duty trucks	320–630
Light-duty vehicles (1.0 to 0.4 g/mi)	2,400
Light-duty vehicles (I/M)	2,500

*Values ranked by midpoints of ranges.

Light-Duty Truck NO_x. The projected emission reductions and cost estimates given above, with costs computed on a lifetime basis, yield a cost effectiveness for diesel light-duty trucks of $340 per ton of NO_x emissions prevented. In the case of gasoline-fueled light-duty trucks, the per-ton cost of NO_x emissions reduction would be between $320 and $630. Both values compare quite favorably with the cost effectiveness of reducing light-duty vehicle NO_x emissions trhough lowering the NO_x standard from 1.0 to 0.4 g/mi or through inspection and maintenance programs.

Gasoline-Fueled Heavy-Duty Engine NO_x. The cost effectiveness of the proposed NO_x standards for gasoline-fueled heavy-duty engines would be very good. Although the control of NO_x emissions from these engines would not lead to large reductions in NO_x emission inventories, since gasoline-fueled heavy-duty engines are a relatively minor fraction of the total, the costs of this control would be very low. Thus, the lifetime cost effectiveness would be excellent. For the 6.0 g/BHP-hr NO_x standard proposed for 1987, the cost per ton of reduced NO_x emissions would be about $15. Even with the tighter 4.0 g/BHP-hr standard proposed for 1990, the cost effectiveness value would be only about $55 per ton of NO_x reduction.

Heavy-Duty Diesel Engine No_x. The lifetime cost effectiveness for the proposed 1987 No_x standard ranges from $10 to $480 per ton reduction in No^x emissions, depending on fuel economy effects. The corresponding value for the reductions due to the 1990 standard would be between $100 and $380, again depending on the fuel economy effects. These values also compare very favorably with the cost effectiveness of the light-duty vehicle No_x control strategies shown in Table 1.

Heavy-Duty Diesel Engine Particulate. In the Draft Regulatory Impact Analysis, it was noted that comparisons of the cost effectiveness of emission control from stationary and mobile sources had to account for the different impact that emissions from each source category have on air quality. This is especially true in the case of particulate, where the focus of existing air quality problems is in urban areas. This analysis therefore examined the urban air quality impacts of the particulate standards proposed here. In other words, EPA has considered only the particulate reductions projected to occur as a result of today's proposal in urban areas, and has not used non-urban particulate reductions in calculating cost effectiveness.

On this basis, the cost effectiveness for the proposed 1987 particulate standard of 0.60 g/BHP-hr, which will not require the use of trap-oxidizers, would be about $1,400 per ton reduction in emissions of particulate matter. Combined with the proposed 1990 standard of 0.25 g/BHP-hr, which will require about 70 percent of heavy-duty diesel engines to use traps, the total urban cost effectiveness would be about $10,000 per ton.

IV. Public Participation

Comments and the Public Docket

As in past rulemaking activities, EPA desires full public participation in

arriving at final rulemaking decisions. In addition to those areas where specific comment has been requested earlier in this preamble, EPA solicits comments on all aspects of today's proposals from all interested parties. Wherever applicable, full supporting data and detailed analyses should also be submitted to allow EPA to make maximum use of the coments. Commenters are especially encouraged to provide suggestions for modification of any aspects of the proposal that they find objectionable. All comments should be directed to the Central Docket Section, Docket No. A–80–18 (*see* "Addresses").

Commenters desiring to submit proprietary information for consideration should clearly distinguish such information from other comments to the greatest possible extent, and clearly label it "Confidential Business Information." Submissions containing such proprietary information should be sent directly to the contact person listed above, and not to the public docket, to ensure that proprietary information is not inadvertantly placed in the docket.

Information covered by such a claim of confidentiality will be disclosed by EPA only to the extent allowed and by the procedures set forth in 40 CFR Part 2. If no claim of confidentiality accompanies the submission when it is received by EPA, it may be made available to the public without further notice to the commenter.

Public Hearings

Any person desiring to present testimony regarding this proposal at the public hearings (*see* "Dates") should, if possible, notify the contact person listed above of such intent at least seven days prior to the opening day of the hearing. The contact person should also be given an estimate of the time required for the presentation of the testimony and notification of any need for audio/visual equipment. A sign-up sheet will be available at the registration table the morning of the hearing for scheduling of the order of testimony.

It is suggested that approximately 50 copies of the statement or material to be presented be brought to the hearing for distribution to the audience. In addition, it will be helpful for EPA to receive an advance copy of any statement or material to be presented at the hearing at least one week before the scheduled hearing date, in order for EPA staff to have adequate time to give such material full consideration. Such advance copies should be submitted to the contact person listed above.

The official records of the hearings will be kept open for 30 days following the hearing to allow submission of rebuttal and supplementary testimony. All such submittals should be directed to the Central Docket Section, Docket No. A–80–18 (*see* "Addresses").

Mr. Richard D. Wilson, Director of the Office of Mobile Sources, is hereby designated Presiding Officer of the hearings. The hearings will be conducted informally, and technical rules of evidence will not apply. Written transcripts of the two hearings will be taken. Anyone desiring to purchase a copy of either transcript should make individual arrangements with the court reporter recording the proceedings.

V. Statutory Authority

Citations from the Act particularly relevant to the NO_x and particulate standards contained in today's proposal have been discussed in earlier portions of this notice. Authority for the allowable maintenance provisions and for the light-duty truck high-altitude standards is provided by the following sections of the Act:

Section 206(a)(1), which provides in part that "the Administrator shall test, or require to be tested, in such manner as he deems appropriate, any new motor * * * vehicle to determine whether such vehicle * * * conforms with the regulations prescribed under Section 202 of this Act."

Section 207, which authorizes the Administrator to promulgate regulations to ensure compliance with applicable emission regulations by vehicles and engines in actual use.

Section 208, which authorizes the Administrator to require manufacturers of new motor vehicles and new motor vehicle engines to maintain and to submit such records as may reasonably be required in order to determine that the manufacturer has acted or is acting in compliance with regulations promulgated under this part.

Section 301(a), which provides in part that "the Administrator is authorized to prescribe such regulations as are necessary to carry out his functions under this Act."

In addition, EPA believes that the broad authority to promulgate regulations governing manufacturers' compliance with section 202 of the Act provides the necessary authority for the particulate averaging program proposed in this notice.

List of Subjects in 40 CFR Part 86

Administrative practice and procedures, Labeling, Motor vehicle pollution, Reporting and recordkeeping requirements.

Administrative Designation and Regulatory Analsysis

The Administrator has determined that this action constitutes a major regulation, and accordingly a Draft Regulatory Impact Analysis has been prepared as required under Executive Order 12291. This analysis includes detailed assessments of the estimated economic and environmental impacts of the regulations proposed here, as well as more thorough analyses of the technological feasibility of the emission standards and other regulatory provisions proposed here, and the alternatives that were considered in the development of this proposal.

The Draft Regulatory Impact Analysis has been placed in the public docket referenced at the beginning of today's notice. In addition, interested parties may obtain single copies through a written request to: Director, Emission Control Technology Division, Office of Mobile Sources, 2565 Plymouth Road, Ann Arbor, MI 48105, Attn: Heavy-Duty Section.

This regulation was submitted to the Office of Managment and Budget (OMB) for review as required by Executive Order 12291. Any comments from OMB and any EPA response to those comments are in the public docket for this rulemaking.

Impact on Small Entities

Section 605 of the Regulatory Flexibility Act requires that the Administrator certify regulations that do not have a significant impact on a substantial number of small entites. I certify that this regulation does not have such an effect because it primarily affects only manufacturers of motor vehicles and motor vehicle engines, a group which does not contain a substantial number of small entities.

Reporting and Recordkeeping Requirements

Most of the information collection requirements contained in this proposed rule have been approved by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.*, and have been assigned OMB Control Number 2000–0390. The information collection provisions relating to the heavy-duty diesel particulate standard have been submitted for approval to OMB. Comments on these requirements should be submitted to the Office of Information and Regulatory Affairs of OMB—marked Attention: Desk Officer for EPA. The final rule package will respond to any OMB or public

comments on the information collection provisions.

Authority for the actions proposed in this notice is granted EPA by sections 202, 203, 206, 207, 208, and 301 of the amended Clean Air Act (42 U.S.C. 7521, 7522, 7525, 7541, 7542, and 7601.)

Dated: October 5, 1984.

Alvin L. Alm,

Deputy Administrator.

PART 86—[AMENDED]

For the reasons set forth in the Preamble, Part 86 of Title 40 of the Code of Federal Regulations is amended as set forth below:

1. The authority for Part 86 is revised to read as follows:

Authority: Sec. 202, 203, 206, 207, 208, 301a, Clean Air Act as Amended; 42 U.S.C. 7521, 7522, 7525, 7541, 7542, 7601a.

2. A new Subpart As consisting of § 86.2500 is proposed to be added to Part 86, to read as follows:

Subpart AA—Reporting and Recordkeeping Requirements for Part 86

§ 86.2500 Reporting and recordkeeping requirements.

All reporting and recordkeeping requirements contained in Part 86, except for those requirements contained in Subparts G and K, have been approved by the Office of Management and Budget under control number 2000–0390.

Subpart A—[Amended]

3. A new § 86.087–2 is proposed to be added to Subpart A, to read as follows:

§ 86.087–2 Definitions.

The definitions in § 86.085–2 remain effective. The definitions in this section apply beginning with the 1987 model year.

"Critical emission-related components" are those components which are designed primarily for emission control, or whose failure may result in a significant increase in emissions accompanied by no significant impairment (or perhaps even an improvement) in performance, driveability, and/or fuel economy as determined by the Administrator.

"Critical emission-related maintenance" means that maintenance to be performed on critical emission-related components.

"Emission-related maintenance" means that maintenance which does substantially affect emissions or which is likely to affect the emissions deterioration of the vehicle or engine during normal in-use operation, even if the maintenance is performed at some time other than that which is recommended.

"Non-emission-related maintenance" means that maintenance which does not substantially affect emissions and which does not have a lasting effect on the emissions deterioration of the vehicle or engine during normal in-use operation once the maintenance is performed.

4. Section 86.087–9 of Subpart A is proposed to be amended by revising paragraphs (a)(1)(iii), (d)(1)(ii), (d)(1)(iii) and (d)(2), and adding a new paragraph (d)(1)(iv), to read as follows:

§ 86.087–9 Emission standards for 1987 light-duty trucks.

(a)(1) * * *

(iii) *Oxides of nitrogen.* (A) For light-duty trucks up to 6,000 lbs gross vehicle weight or 3,999 lbs equivalent test weight, 1.2 grams per vehicle mile (0.75 grams per vehicle kilometer).

(B) For light-duty trucks 6,001 lbs gross vehicle weight and greater and 4,000 lbs equivalent test weight and greater, 1.7 grams per vehicle mile (0.75 grams per vehicle kilometer).

* * * * *

(d)(1) * * *

(ii) *Carbon Monoxide.* (A) 14.0 grams per vehicle mile (8.7 grams per vehicle kilometer).

(B) 0.50 percent of exhaust gas flow at curb idle (gasoline-fueled vehicles only).

(iii) *Oxides of nitrogen.* (A) For light-duty trucks up to 6,000 lbs gross vehicle weight or 3,999 lbs equivalent test weight, 1.2 grams per vehicle mile (0.75 grams per vehicle kilometer).

(B) For light-duty trucks 6,001 lbs gross vehicle weight and greater and 4,000 lbs equivalent test weight and greater, 1.7 grams per vehicle mile (0.75 grams per vehicle kilometer).

(iv) *Particulate Emissions (diesels only).* 0.26 gram per vehicle mile (0.162 gram per vehicle kilometer). A manufacturer may elect to include all or some of its diesel light-duty truck engine families in the particulate averaging program, provided that trucks produced for sale in California or in designated high-altitude areas may be averaged only within each of those areas. If the manufacturer elects to average both diesel light-duty vehicles and diesel light-duty trucks together in the particulate averaging program, its composite particulate standard applies to the combined set of diesel light-duty vehicle and diesel light-duty truck vehicles included in the average and is calculated as defined in § 86.085–2.

(2) The standards set forth in paragraph (d)(1) of this section refer to the exhaust emitted over a driving schedule as set forth in Subpart B of this part and measured and calculated in accordance with those procedures. The standard set forth in paragraph (d)(1)(ii)(B) refers to the exhaust emitted at curb idle and measured and calculated in accordance with the procedures set forth in Subpart P of this part.

* * * * *

5. Section 86.087–10 of Subpart A is proposed to be amended by revising paragraphs (a) (1) (i) (C) and (a) (1) (ii) (C), to read as follows:

§ 86.087–10 Emission standards for 1987 and later model year gasoline-fueled heavy-duty engines and vehicles.

(a) (1) * * *

(i) * * *

(C) *Oxides of nitrogen.* 6.0 grams per brake horsepower-hour, as measured under transient operating conditions.

(ii) * * *

(C) *Oxides of nitrogen.* 6.0 grams per brake horsepower-hour, as measured under transient operating conditions.

* * * * *

6. A new § 86.087–11 is proposed to be added to Subpart A, to read as follows:

§ 86.087–11 Emission standards for 1987 and later model year diesel heavy-duty engines.

(a) (1) Exhaust emisisons from new 1987 and later model year diesel heavy-duty engines shall not exceed the following:

(i) *Hydrocarbons.* 1.3 grams per brake horsepower-hour, as measured under transient operating conditions.

(ii) *Carbon monoxide.* 15.5 grams per brake horsepower-hour, as measured under transient operating conditions.

(iii) *Oxides of nitrogen.* 6.0 grams per brake horsepower-hour, as measured under transient operating conditions.

(iv) *Particulate emissions.* 0.60 grams per brake horsepower-hour, as measured under transient operating conditions.

(2) The standards set forth in paragraph (a) (1) of this section refer to the exhaust emitted over operating schedules as set forth in paragraph (f) (2) of Appendix I of this part, and measured and calculated in accordance with the procedures set forth in Subpart N of this part, except as noted in § 86.087–23(c) (2) (i) and (iii).

(b) (1) The opacity of smoke emission from new 1987 and later model year diesel heavy-duty engines shall not exceed:

(i) 20 percent during the engine acceleration mode.

(ii) 15 percent during the engine lugging mode.

(iii) 50 percent during the peaks in either mode.

(2) The standards set forth in paragraph (b) (1) of this section refer to exhaust smoke emissions generated under the conditions set forth in Subpart I of this part and measured and calculated in accordance with those procedures.

(c) No crankcase emissions shall be discharged into the ambient atmosphere from any new 1987 model year naturally-aspirated diesel heavy-duty engine. This provision does not apply to engines using turbochargers, pumps, blowers, or superchargers for air induction.

(d) Model year 1987 and later heavy-duty diesel engines sold for principal use at a designated high altitude location shall be capable of meeting the following exhaust emission standards when tested under high altitude conditions:

(i) *Particulate Emissions.* 0.72 grams per brake horsepower-hour, as measured under transient operating conditions.

(e) except as provided in § 86.087–24 (b) (3) (iv) (B), every manufacturer of new motor vehicle engines subject to the standards prescribed in this section shall, prior to taking any of the actions specified in section 203(a) (1) of the Act, test or cause to be tested motor vehicle engines in accordance with applicable procedures in Subpart I or N of this part to ascertain that such test engines meet the requirements of paragraphs (a), (b), (c) and (d) of this section.

7. A new § 86.087–24 is proposed to be added to Subpart A, to read as follows:

§ 86.087–24 Test vehicles and engines.

(a) (1) the vehicles or engines covered by an application for certification will be divided into groupings of engines which are expected to have similar emission characteristics throughout their useful life. Each group of engines with similar emission characteristics shall be defined as a separate engine family.

(2) to be classified in the same engine family, engines must be identical in all the following respects:

(i) The cylinder bore center-to-center dimensions.

(ii) [Reserved]

(iii) [Reserved]

(iv) The cylinder block configuration (air cooled or water cooled; L–6, 90° V–8, etc.).

(v) The location of the intake and exhaust valves (or ports).

(vi) The method of air aspiration.

(vii) The combustion cycle.

(viii) Catalytic converter characteristics.

(ix) Thermal reactor characteristics.

(x) Type of air inlet cooler (*e.g.*, intercoolers and after-coolers) for diesel heavy-duty engines.

(3)(i) Engines identical in all the respects listed in paragraph (a)(2) of this section may be further divided into different engine families if the Administrator determines that they may be expected to have different emission characteristics. This determination will be based upon a consideration of the following features of each engine:

(A) The bore and stroke.

(B) The surface-to-volume ratio of the nominally dimensioned cylinder at the top dead center positions.

(C) The intake manifold induction port size and configuration.

(D) The exhaust manifold port size and configuration.

(E) The intake and exhaust valve sizes.

(F) The fuel system.

(G) The camshaft timing and ignition or injection timing characteristics.

(ii) Light-duty trucks and heavy-duty engines produced in different model years and distinguishable in the respect listed in paragraph (a)(2) of this section shall be treated as belonging to a single engine family if the Administrator requires it, after determining that the engines may be expected to have similar emission deterioration characteristics.

(4) Where engines are of a type which cannot be divided into engine families based upon the criteria listed in paragraphs (a)(2) and (a)(3) of this section, the Administrator will establish families for those engines based upon those features most related to their emission characteristics. Engines that are eligible to be included in the same engine family based on the criteria in paragraphs (a)(2) and (a)(3)(i) of this section may be further divided into different engine families if the manufacturer determines that they may be expected to have different emission characteristics. This determination will be based upon a consideration of the following features of each engine:

(i) The dimension from the center line of the crankshaft to the center line of the camshaft.

(ii) The dimension from the center line of the crankshaft to the top of the cylinder block head face.

(iii) The size of the intake and exhaust valves (or ports).

(5) The gasoline-fueled light-duty vehicles and light-duty trucks covered by an application for certification will be divided into groupings which are expected to have similar evaporative emission characteristics throughout their useful life. Each group of vehicles with similar evaporative emission characteristics shall be defined as a separate evaporative emission family.

(6) For gasoline-fueled light-duty vehicles and light-duty trucks to be classed in the same evaporative emission family, vehicles must be similar with respect to:

(i) Type of vapor storage device (*e.g.*, canister, air cleaner, crankcase).

(ii) Basic canister design.

(iii) Fuel system.

(7) Where vehicles are of a type which cannot be divided into evaporative emission families based on the criteria listed above, the Administrator will establish families for those vehicles based upon the features most related to their evaporative emission characteristics.

(8)(i) If the manufacturer elects to participate in the Alternative Durability Program, the engine families covered by an application for certification shall be grouped based upon similar engine design and emission control system characteristics. Each of these groups shall constitute a separate engine family group.

(ii) To be classed in the same engine family group, engine families must contain engines identical in all of the following respects:

(A) The combustion cycle.

(B) The cylinder block configuration (air-cooled or water-cooled; L–6, V–8, rotary, etc.).

(C) Displacement (engines of different displacement within 50 cubic inches or 15 percent of the largest displacement and contained within a multidisplacement engine family will be included in the same engine family group).

(D) Catalytic converter usage and basic type (noncatalyst, oxidation catalyst only, three-way catalyst equipped).

(9) Engine families identical in all respects listed in paragraph (a)(8) of this section may be further divided into different engine family groups if the Administrator determines that they are expected to have significantly different exhaust emission control system deterioration characteristics.

(10) A manufacturer may request the Administrator to include in an engine family group, engine families in addition to those grouped under the provisions of paragraph (a)(8) of this section. This request must be accompanied by information the manufacturer believes supports the inclusion of these additional engine families.

(11) A manufacturer may combine into a single engine family group those light-duty vehicle and light-duty truck engine families which otherwise meet the

requirements of paragraphs (a)(8) through (a)(10) of this section.

(12) The gasoline-fueled heavy-duty vehicles covered by an application for certification will be divided into groupings of vehicles on the basis of physical features which are expected to affect evaporative emissions. Each group of vehicles with similar features shall be defined as a separate evaporative emission family.

(13) For gasoline-fueled heavy-duty vehicles to be classed in the same evaporative emission family, vehicles must be identical with respect to:

(i) Method of fuel/air metering (*i.e.*, carburetion versus fuel injection).

(ii) Carburetor bowl fuel volume, within a 10 cc range.

(14) For gasoline-fueled heavy-duty vehicles to be classed in the same evaporative emission control system, vehicles must be identical with respect to:

(i) Method of vapor storage.

(ii) Method of carburetor sealing.

(iii) Method of air cleaner sealing.

(iv) Vapor storage working capacity, within a 20 gram range.

(v) Number of storage devices.

(vi) Method of purging stored vapors.

(vii) Method of venting the carburetor during both engine off and engine operation.

(viii) Liquid fuel hose material.

(ix) Vapor storage material.

(15) Where gasoline-fueled heavy-duty vehicles are types which cannot be divided into evaporative emission family-control system combinations based on the criteria listed above, the Administrator will establish evaporative emission family-control system combinations for those vehicles based on features most related to their evaporative emission characteristics.

(b) Emission data:

(1) *Emission-data vehicles.* Paragraph (b)(1) of this section applies to light-duty vehicle and light-duty truck emission-data vehicles.

(i) Vehicles will be chosen to be operated and tested for emission data based upon engine family groupings. Within each engine family, one test vehicle will be selected based on the following criteria: The Administrator shall select the vehicle with the heaviest equivalent test weight (including options) within the family. Then within that vehicle the Administrator shall select, in the order listed, the highest road-load power, largest displacement, the transmission with the highest numerical final gear ratio (including overdrive), the highest numerical axle ratio offered in that engine family and the maximum fuel flow calibration.

(ii) The Administrator shall select one additional test vehicle from within each engine family. The vehicle selected shall be the vehicle expected to exhibit the highest emissions of those vehicles remaining in the engine family. If all vehicles within the engine family are similar the Administrator may waive the requirements of this paragraph.

(iii) Within an engine family and exhaust emission control system, the manufacturer may alter any emission-data vehicle (or other vehicles such as including current on previous model year emission-data vehicles, fuel economy data vehicles, and development vehicles provided they meet emission-data vehicles' protocol) to represent more than one selection under paragraphs (b)(1) (i), (ii), (iv), or (vii) of this section.

(iv) If the vehicles selected in accordance with paragraphs (b)(1) (i) and (ii) of this section do not represent each engine-system combination, then one vehicle of each engine-system combination not represented will be selected by the Administrator. The vehicle selected shall be the vehicle expected to exhibit the highest emissions of those vehicles remaining in the engine family.

(v) For high-altitude exhaust emission compliance for each engine family, the manufacturer shall follow one of the following procedures:

(A) The manufacturer will select for testing under high-altitude conditions the vehicle expected to exhibit the highest emissions from the nonexempt vehicles selected in accordance with paragraphs (b)(1) (ii), (iii), and (iv) of this section or,

(B) In lieu of testing vehicles according to paragraph (b)(1)(v)(A) of this section, a manufacturer may provide a statement in its application for certification that, based on the manufacturer's engineering evaluation of such high-altitude emission testing as the manufacturer deems appropriate,

(*1*) That all light-duty vehicles not exempt under § 86.087–8(h) comply with the emission standards at high-altitude, and

(*2*) That light-duty trucks sold for principal use at designated high-altitude locations comply with the high-altitude emission requirements, and that all light-duty trucks sold at low-altitude, which are not exempt under § 86.087–9(g)(2), are capable of being modified to meet high-altitude standards.

(vi) If 90 percent or more of the engine family sales will be in California, a manufacturer may substitute emission-data vehicles selected b the California Air Resources Board criteria for the selections specified in paragraphs (b)(1) (i), (ii), and (iv) of this section.

(vii)(A) Vehicles of each evaporative emission family will be divided into evaporative emission control systems.

(B) The Administrator will select the vehicle expected to exhibit the highest evaporative emission, from within each evaporative family to be certified, from among the vehicles represented by the exhaust emission-data selections for the engine family, unless evaporative testing has already been completed on the vehicle expected to exhibit the highest evaporative emissions for the evaporative family as part of another engine family's testing.

(C) If the vehicles selected in accordance with paragraph (b)(1)(vii)(B) of this section do not represent each evaporative emission control system then the Administrator will select the highest expected evaporative emission vehicle from within the unrepresented evaporative system.

(viii) For high-altitude evaporative emission compliance for each evaporative emission family, the manufacturer shall follow one of the following procedures:

(A) The manufacturer will select for testing under high-altitude conditions the one nonexempt vehicle previously selected under paragraphs (b)(1)(vii) (B) or (C) of this section which is expected to have the highest level of evaporative emissions when operated at high altitude or

(B) In lieu of testing vehicles according to paragraph (b)(1)(viii)(A) of this section, a manufacturer may provide a statement in its application for certification that based on the manufacturer's engineering evaluation of such high-altitude emission testing as the manufacturer deems appropriate,

(*1*) That all light-duty vehicles not exempt under § 86.087–8(h) comply with the emission standards at high altitude and

(*2*) That light-duty trucks sold for principal use at designated high-altitude locations comply with the high-altitude emission requirements, and that all light-duty trucks sold at low altitude, which are not exempt under § 86.087–9(g)(2), are capable of being modified to meet high-altitude standards.

(ix) Vehicles selected under paragraph (b)(1)(v)(A) of this section may be used to satisfy the requirements of (b)(1)(viii)(A) of this section.

(x) (Light-Duty Trucks Only) (A) The manufacturer may reconfigure any of the low-altitude emission-data vehicles to represent the vehicle configuration required to be tested at high altitude.

(B) The manfacturer is not required to test the reconfigured vehicle at low altitude.

(2) *Gasoline-fueled heavy-duty emission-data engines.* Paragraph (b)(2) of this section applies to gasoline-fueled heavy-duty engines.

(i) [Reserved]

(ii) [Reserved]

(iii) The Administrator shall select a maximum of two engines within each engine family based upon features indicating that they may have the highest emission levels of the engines in the engine family as follows:

(A) The Administrator shall select one emission-data engine first based on the largest displacement within the engine family. Then within the largest displacement the Administrator shall select, in the order listed, highest fuel flow at the speed of maximum rated torque, the engine with the most advanced spark timing, no EGR or lowest EGR flow, and no air pump or lowest actual flow air pump.

(B) The Administrator shall select one additional engine, from within each engine family. The engine selected shall be the engine expected to exhibit the highest emissions of those engines remaining in the engine family. If all engines within the engine family are similar the Administrator may waive the requirements of this paragraph.

(iv) If the engines selected in accordance with paragraph (b)(2) (ii) and (iii) of this section do not represent each engine displacement-exhaust emission control system combination, then one engine of each engine displacement-exhaust emission control system combination not represented shall be selected by the Administrator.

(v) Within an engine family and emission control system, the manufacturer may alter any emission-data engine to represent more than one selection under paragraph (b)(2) (iii) and (iv) of this section.

(3) *Diesel heavy-duty emission-data engines.* Paragraph (b)(3) of this section applies to diesel heavy-duty emission-data vehicles.

(i) Engines will be chosen to be run for emission data based upon engine family groupings. Within each engine family, the requirements of this paragraph must be met.

(ii) Engines of each engine family will be divided into groups based upon their exhaust emission control systems. One engine of each engine system combination shall be run for smoke emission data and gaseous and particulate emission data. Either the complete gaseous and particulate emission test or the complete smoke test may be conducted first. Within each combination, the engine that features the highest fuel feed per stroke, primarily at the speed of maximum rated torque and secondarily at rated speed, will usually be selected. If there are military engines with higher fuel rates than other engines in the same engine system combinations, then one military engine shall also be selected. The engine with the highest fuel feed per stroke will usually be selected.

(iii) The Administrator may select a maximum of one additional engine within each engine-system combination based upon features indicating that it may have the highest emission levels of the engines of that combination. In selecting this engine, the Administrator will consider such features as the injection system, fuel system, compression ratio, rated speed, rated horsepower, peak torque speed, and peak torque.

(iv) For high-altitude exhaust emission compliance for each engine family, the manufacturer shall follow one of the following procedures:

(A) The manufacturer will select for testing under high-altitude conditions the vehicle expected to exhibit the highest emissions from the nonexempt vehicles selected in accordance with § 886.087–24(b)(3) (ii), (iii), and (iv) of this section or,

(B) In lieu of testing vehicles according to paragraph (A) of this section, a manufacturer may provide a statement in its application for certification that, based on the manufacturer's engineering evaluation of such high-altitude emission testing as the manufacturer deems appropriate, all diesel heavy-duty engines comply with the emission standards at high altitude.

(c) Durability data:

(1) *Light-duty vehicle durability-data vehicles.* Paragraph (c)(1) of this section applies to light-duty vehicle durability-data vehicles.

(i) A durability-data vehicle will be selected by the Administrator to represent each engine-system combination. The vehicle selected shall be of the engine displacement with the largest projected sales volume of vehicles with that control-system combination in that engine family and will be designated by the Administrator as to transmission type, fuel system, inertia weight class, and test weight.

(ii) A manufacturer may elect to operate and test additional vehicles to represent any engine-system combination. The additional vehicles must be of the same engine displacement, transmission type, fuel system and inertia weight class as the vehicle selected for that engine-system combination in accordance with the provisions of paragraph (c)(1)(i) of this section. Notice of an intent to operate and test additional vehicles shall be given to the Administrator no later than 30 days following notification of the test fleet selection.

(2) *Light-duty trucks.* Paragraph (c)(2) of this section applies to vehicles, engines, subsystems, or components used to established exhaust emission deterioration factors for light-duty trucks.

(i) The manufacturer shall select the vehicles, engines, subsystems, or components to be used to determine exhaust emission deterioration factors for each engine-family control system combination. Whether vehicles, engines, subsystems, or components are used, they shall be selected so that their emissions deterioration characteristics may be expected to represent those of in-use vehicles, based on good engineering judgment.

(ii) [Reserved]

(3) *Heavy-duty engines.* Paragraphs (c)(3) of this section applies to engines, subsystems, or components used to establish exhaust emission deterioration factors for heavy-duty engines.

(i) The manufacturer shall select the engines, subsystems, or components to be used to determine exhaust emission deterioration factors for each engine-family control system combination. Whether engines, subsystems, or components are used, they shall be selected so that their emissions deterioration characteristics may be expected to represent those of in-use engines, based on good engineering judgment.

(ii) [Reserved]

(d) For purposes of testing under § 86.084–26 (a)(9) or (b)(11), the Administrator may require additional emission-data vehicles (or emission-data engines) and durability-data vehicles (light-duty vehicles only) identical in all material respects to vehicles (or engines) selected in accordance with paragraphs (b) and (c) of this section: *Provided,* that the number of vehicles (or engines) selected shall not increase the size of either the emission-data fleet or the durability-data fleet by more than 20 percent or one vehicle (or engine), which ever is greater.

(e)(1) Any manufacturer whose projected sales for the model year in which certification is sought is less than:

(i) 2,000 gasoline-fueled light-duty vehicles,or

(ii) 2,000 diesel light-duty vehicles, or

(iii) 2,000 gasoline-fueled light-duty trucks, or

(iv) 2,000 diesel light-duty trucks, or

(v) 2,000 gasoline-fueled heavy-duty engines, or

(vi) 2,000 diesel heavy-duty engines,

may request a reduction in the number of test vehicles (or engines) determined in accordance with the foregoing provisions of this section. The Administrator may agree to such lesser number as he determines would meet the objectives of this procedure.

(2) Any manufacturer may request to certify engine families with combined total sales of fewer than 10,000 light-duty vehicles, light-duty trucks, and heavy-duty engines utilizing assigned deterioration factors prescribed by the Administrator. The assigned deterioration factors shall be applied only to entire engine families.

(f) In lieu of testing an emission-data or durability-data vehicle (or engine) selected under paragraph (b) or (c) of this section, and submitting data therefor, a manufacturer may, with the prior written approval of the Administrator, submit exhaust emission data and/or fuel evaporative emission data, as applicable on a similar vehicle (or engine) for which certification has previously been obtained or for which all applicable data required under § 86.087–23 has previously been submitted.

(g)(1) This paragraph applies to light-duty vehicles and light-duty trucks, but does not apply to the production vehicles selected under paragraph (h) of this section.

(2) Where it is expected that more than 33 percent of the vehicles in an engine family will be equipped with an optional item, the full estimated weight of that item shall be included, if required by the Administrator, in the curb weight computation for each vehicle available with that option in the engine family. Where it is expected that 33 percent or less of the vehicles in an engine family will be equipped with an item of optional equipment, no weight for that item will be added in computing curb weight. In the case of mutually exclusive options, only the weight of the heavier option will be added in computing curb weight. Optional equipment weighing less than 3 pounds per item need not be considered.

(3)(i) Where it is expected that more than 33 percent of a car line within an engine-system combination will be equipped with an item of optional equipment that can reasonably be expected to influence emissions, then such items shall actually be installed (unless excluded under paragraph (g)(3)(ii) of this section) on all emission-data and durability-data vehicles of that car line, within that engine-system combination, on which the items are intended to be offered in production. Optional equipment that can reasonably be expected to influence emissions are the air conditioner, power steering, power brakes and other items determined by the Administrator.

(ii) If the manufacturer determines by test data or engineering evaluation that the actual installation of the optional equipment required by paragraph (g)(3)(i) of this section does not affect the emissions or fuel economy values, the optional equipment need not be installed on the test vehicle. The weight of the options shall be included in the design curb weight and also be represented in the weight of the test vehicles. The engineering evaluation, including any test data, used to support the deletion of optional equipment from test vehicles, shall be maintained by the manufacturer and shall be made available to the Administrator upon request.

(h) Alternative Durability Program durability-data vehicles. This section applies to light-duty vehicle and light-duty truck durability-data vehicles selected under the Alternative Durability Program described in § 86.085–13.

(1) In order to update the durability data to be used to determine a deterioration factor for each engine family group, the Administrator will select durability-data vehicles from the manufacturer's production line. Production vehicles will be selected from each model year's production for those vehicles certified using the Alternative Durability Program procedures.

(i) The Administrator shall select the production durability-data vehicle designs from the designs that the manufacturer offers for sale. For each model year and for each engine family group, the Administrator may select production durability-data vehicle designs of equal number to the number of engine families within the engine family group, up to a maximum of three vehicles.

(ii) The production durability-data vehicles representing the designs selected in paragraph (h)(1)(i) of this section will be randomly selected from the manufacturer's production. The Administrator will make these random selections unless the manufacturer (with prior approval of the Administrator) elects to make the random selections.

(iii) The manufacturer may select additional production durability-data vehicle designs from within the engine family group. The production durability-data vehicles representing these designs shall be randomly selected from the manufacturer's production in accordance with paragraph (h)(1)(ii) of this section.

(iv) For each production durability-data vehicle selected under paragraph (h)(1) of this section, the manufacturer shall provide to the Administrator (before the vehicle is tested or begins service accumulation) the vehicle identification number. Before the vehicle begins service accumulation the manufacturer shall also provide the Administrator with a description of the durability-data vehicle as specified by the Administrator.

(2) If, within an existing engine family group, a manufacturer requests to certify vehicles of a new design, engine family, emission control system, or with any other durability-related design difference, the Administrator will determine if the existing engine family group deterioration factor is appropriate for the new design. If the Administrator cannot make this determination or deems the deterioration factor not appropriate, the Administrator shall select preproduction durability-data vehicles under the provisions of paragraph (c) of this section. If vehicles are then certified using the new design, the Administrator may select production vehicles with the new design under the provisions of paragraph (h)(1) of this section.

(3) If a manufacturer requests to certify vehicles of a new design that the Administrator determines are a new engine family group, the Administrator shall select preproduction durability-data vehicles under the provisions of paragraph (c) of this section. If vehicles are then certified using the new design, the Administrator may select production vehicles of that design under the provisions of paragraph (h)(1) of this section.

(4) In lieu of testing a production durability-data vehicle selected under paragraph (h)(1) of this section, and submitting data therefore, a manufacturer may, with the prior written approval of the Administrator, submit exhaust emission data from a production vehicle of the same configuration for which all applicable data has previously been submitted.

8. A new § 86.087–25 is proposed to be added to Subpart A, to read as follows:

§ 86.087–25 Maintenance.

(a) *Applicability.* This section applies to light-duty vehicles, light-duty trucks and heavy-duty engines.

(1) Maintenance performed on vehicles, engines, subsystems, or components used to determine exhaust or evaporative emission deterioration factors is classified as either emission-

related or non emission-related and each of these can be classified as either scheduled or unscheduled. Further, some emission-related maintenance is also classified as critical emission-related maintenance.

(b) This section specifies emission-related scheduled maintenance for purposes of obtaining durability data and for inclusion in maintenance instructions furnished to purchasers of new motor vehicles and new motor vehicle engines under § 86.087–38.

(1) All emission-related scheduled maintenance for purposes of obtaining durability data must occur at the same mileage intervals (or equivalent intervals if engines, subsystems, or components are used) that will be specified in the manufacturer's maintenance instructions furnished to the ultimate purchaser of the motor vehicle or engine under § 86.087–35. This maintenance schedule may be updated as necessary throughout the testing or the vehicle/engine provided that no maintenance operation is deleted from the maintenance schedule after the operation has been performed on the test vehicle or engine.

(2) Any emission-related maintenance which is performed on vehicles, engines, subsystems, or components must be technologically necessary to assure in-use compliance with the emission standards. The manufacturer must submit data which demonstrate to the Administrator that all of the emission-related scheduled maintenance which is to be performed is technologically necessary. Scheduled maintenance must be approved by the Administrator prior to being performed or being included in the maintenance instructions provided to purchasers under § 86.087–38. As provided below, EPA has determined that emission-related maintenance at shorter intervals than that outlined in paragraphs (b)(3) and (b)(4) of this section is not technologically necessary to ensure in-use compliance. However, the Administrator may determine that maintenance even more restrictive (*e.g.*, longer intervals) than that listed in paragraphs (b)(3) and (b)(4) of this section is also not technologically necessary.

(3) For gasoline-fueled light-duty vehicles, light-duty trucks and heavy-duty engines, emission-related maintenance in addition to, or at shorter intervals than, the following will not be accepted as technologically necessary, except as provided in paragraph (b)(7) of this section.

(i)(A) The cleaning or replacement of light-duty vehicle or light-duty truck spark plugs at 30,000 miles of use and at 30,000-mile intervals thereafter.

(B) The cleaning or replacement of gasoline-fueled heavy-duty engine spark plugs at 12,000 miles (or 360 hours) of use and at 12,000-mile (or 360-hour) intervals thereafter, for engine certified for use with leaded fuel.

(C) The cleaning or replacement of gasoline-fueled heavy-duty engine spark plugs at 25,000 miles (or 750 hours) of use and at 25,000-mile intervals (or 750-hour) intervals thereafter, for engines certified for use with unleaded fuel only.

(ii) The adjustment, cleaning, repair, or replacement of the following at 50,000 miles (or 1,500 hours) of use and at 50,000-mile (or 1,500-hour) intervals thereafter:

(A) Positive crankcase ventilation valve.

(B) Emission-related hoses and tubes.

(C) Ignition wires

(D) Idle mixture.

(iii) The adjustment, cleaning, repair, or replacement of the following at 100,000 miles of use and at 100,000-mile intervals thereafter:

(A) Catalytic converter.

(B) Air injection system components.

(C) Fuel injectors.

(D) Electronic engine control unit and its associated sensors (including oxygen sensor) and actuators.

(E) Evaporative emission canister.

(F) Turbochargers.

(G) Carburetors.

(iv)(A) For gasoline-fueled heavy-duty engines certified for use with leaded fuel, the servicing of the exhaust gas recirculation (EGR) system (including all related filters and control valves) at 24,000 miles (or 720 hours) of use and at 24,000-mile (or 720-hour) intervals thereafter.

(B) For gasoline-fueled light-duty vehicles, light-duty trucks, and for heavy-duty engines certified for use with unleaded fuel only, the servicing of the EGR system (including all related filters and control valves) at 50,000 miles (or 1,500 hours) of use and at 50,000-mile (or 1,500-hour) intervals thereafter.

(4) For diesel powered light-duty vehicles, light-duty trucks, and heavy-duty engines, emission-related maintenance in addition to, or at shorter intervals than, the following will not be accepted as technologically necessary, except as provided in paragraph (b)(7) of this section.

(i) The following maintenance at 50,000 miles (or 1,500 hours) of use and at 50,000-mile (or 1,500-hour) intervals thereafter:

(A) Cleaning or replacement of the exhaust gas recirculation system (including all related filters and control valves) and positive crankcase ventilation valves.

(B) Cleaning of fuel injectors.

(ii) The following maintenance at 100,000 miles (or 3,000 hours) of use and at 100,000-mile (or 3,000-hour) intervals thereafter for light-duty vehicles, light-duty trucks, and light heavy-duty engines, or at 150,000 miles (or 4,500 hours) of use and at 150,000-mile (or 4,500-hour) intervals thereafter for medium and heavy heavy-duty engines: The adjustment, cleaning, repair, or replacement of

(A) The turbocharger and fuel injectors,

(B) The electronic engine control unit and its associated sensors and actuators, and

(C) The particulate trap or trap-oxidizer system (including related components).

(5) [Reserved]

(6)(i) The following components are currently defined as critical emission-related components:

(A) Catalytic converter.

(B) Air injection system components.

(C) Electronic engine control unit and its associated sensors (including oxygen sensor if installed) and actuators.

(D) Exhaust gas recirculation system (including all related filters and control valves).

(E) Positive crankcase ventilation valve.

(F) Evaporative emission system (excluding canister air filter).

(G) Particulate trap or trap-oxidizer system.

(ii) All critical emission-related scheduled maintenance must have a reasonable likelihood of being performed in-use. The manufacturer shall be required to show the reasonable likelihood of such maintenance being performed in-use, and such showing shall be made prior to the performance of the maintenance on the durability data vehicle. Critical emission-related scheduled maintenance items which satisfy one of the following conditions will be accepted as having a reasonable likelihood of having the maintenance item performed in-use:

(A) Data are presented which establish for the Administrator a connection between emissions and vehicle performance such that as emissions increase due to lack of maintenance, vehicle performance will simultaneously deteriorate to a point unacceptable for typical driving.

(B) Survey data are submitted which adequately demonstrate to the Administrator that, at an 80 percent confidence level, 80 percent of such engines already have this critical maintenance item performed in-use at the recommended interval(s).

(C) A clearly displayed visible signal system approved by the Administrator alerts the vehicle driver that maintenance is due. An initial signal bearing the message "maintenance needed" or "check engine" or a similar message approved by the Administrator shall be actuated at the appropriate mileage point or by component failure. If the required maintenance has not been performed within 1,000 miles of actuation of the initial signal, a second signal shall be actuated bearing the message "maintenance required." This signal shall not replace the initial signal, but shall be in addition to that signal. Both signals must be continuous while the engine is in operation, and not be easily eliminated without performance of the required maintenance. Resetting the signal shall be a required step in the maintenance operation. The method for resetting the signal system shall be approved by the Administrator.

(D) A manufacturer may desire to demonstrate through a survey that a critical maintenance item is likely to be performed without a visible signal on a maintenance item for which there is no prior in-use experience without the signal. To that end, the manufacturer may in a given model year market up to 200 randomly selected vehicles per critical emission related maintenance item without such visible signals, and monitor the performance of the critical maintenance item by the owners to show compliance with paragraph (b)(6)(ii)(B) of this section. This option is restricted to two consecutive model years and may not be repeated until any previous survey has been completed. If the critical maintenance involves more than one engine family, the sample will be sales weighted to ensure that it is representative of all the families in question.

(E) The manufacturer provides the maintenance free of charge, and clearly informs the customer that the maintenance is free in the instructions provided under § 86.087–38.

(F) Any other method which the Administrator approves as establishing a reasonable likelihood that the critical maintenance will be performed in-use.

(iii) Visible signal systems used under paragraph (b)(6)(ii)(C) of this section are considered an element of design of the emission control system. Therefore, disabling, resetting, or otherwise rendering such signals inoperative without also performing the indicated maintenance procedure is a prohibited act under section 203(a)(3) of the Clean Air Act, as amended in August 1977 (42 U.S.C. 7522(a)(3)).

(7) Changes to scheduled maintenance.

(i) For maintenance practices that existed prior to the 1980 model year, only the maintenance items listed in paragraphs (b)(3) and (b)(4) of this section are currently considered by EPA to be emission-related. The Administrator may, however, determine additional scheduled maintenance items that existed prior to the 1980 model year to be emission-related by announcement in a Federal Register Notice. In no event may this notification occur later than September 1 of the calendar year two years prior to the affected model year.

(ii) In the case of any new scheduled maintenance, the manufacturer must submit a request for approval to the Administrator for any maintenance that it wishes to recommend to purchasers and perform during durability determination. New scheduled maintenance is that maintenance which did not exist prior to the 1980 model year, including that which is a direct result of the implementation of new technology not found in production prior to the 1980 model year. The manufacturer must also include its recommendations as to the category (*i.e.*, emission-related or non-emission-related, critical or non-critical) of the subject maintenance and, for suggested emission-related maintenance, the maximum feasible maintenance interval. Such requests must include detailed evidence supporting the need for the maintenance requested, and supporting data or other substantiation for the recommended maintenance category and for the interval suggested for emission-related maintenance. Requests for new scheduled maintenance must be approved prior to the introduction of the new maintenance. The Administrator will then designate the maintenance as emission-related or non-emission-related. For maintenance items established as emission-related, the Administrator will further designate the maintenance as critical if the component which receives the maintenance is a critical component under paragraph (b)(6) of this section. For each maintenance item designated as emission-related, the Administrator will also establish a technologically necessary maintenance interval, based on industry data and any other information available to EPA. Designations of emission-related maintenance items, along with their identification as critical or non-critical, and establishment of technologically necessary maintenance intervals, will be announced in the Federal Register.

(iii) Any manufacturer may request a hearing on the Administrator's determinations in paragraph (b)(7) of this section. The request shall be in writing, signed by an authorized representative of the manufacturer, and shall include a statement specifying the manufacturer's objections to the Administrator's determinations, and data in support of such objections. If, after review of the request and supporting data, the Administrator finds that the request raises a substantial factual issue, he shall provide the manufacturer a hearing in accordance with § 86.078–6 with respect to such issue.

(c) Non-emission-related scheduled maintenance which is reasonable and technologically necessary (*i.e.*, oil change, oil filter change, fuel filter change, air filter change, cooling system maintenance, adjustment of idle speed, governor, engine bolt torque, valve lash, injector lash, timing, etc.) may be performed on durability-data vehicles at the intervals recommended by the manufacturer to the ultimate purchaser.

(d) Unscheduled maintenance on light-duty durability data vehicles.

(1) Unscheduled maintenance may be performed during the testing used to determine deterioration factors, except as provided in paragraph (d)(2) and (d)(3) of this section, only under the following provisions:

(i) A fuel injector or spark plug may be changed if a persistent misfire is detected.

(ii) Readjustment of a gasoline-fueled vehicle cold-start enrichment system may be performed if there is a problem of stalling.

(iii) Readjustment of the engine idle speed (curb idle and fast idle) may be performed in addition to that performed as scheduled maintenance under paragraph (c) of this section, if the idle speed exceeds the manufacturer's recommended idle speed by 300 rpm or more, or if there is a problem of stalling.

(2) Any other unscheduled vehicle, emission control system, or fuel system adjustment, repair, removal, disassembly, cleaning, or replacement during testing to determine deterioration factors shall be performed only with the advance approval of the Administrator. Such approval will be given if the Administrator:

(i) Has made a preliminary determination that the part failure or system malfunction, or the repair of such failure or malfunction, does not render the vehicle or engine unrepresentative of vehicles or engines in-use, and does not require direct access to the combustion chamber, except for spark plug, fuel injection component, or removable prechamber removal or replacement; and,

(ii) Has made a determination that the need for maintenance or repairs is indicated by an overt indication of malfunction such as persistent misfiring, engine stalling, overheating, fluid leakage, loss of oil pressure, excessive fuel consumption or excessive power loss. The Administrator shall be given the opportunity to verify the existence of an overt indication of part failure and/or vehicle/engine malfunction (*e.g.*, misfiring, stalling, black smoke), or an activation of an audible and/or visible signal, prior to the performance of any maintenance to which such overt indication or signal is relevant under the provisions of this section.

(3) Emission measurement may not be used as a means of determining the need for unscheduled maintenance under paragraph (d)(2) of this section, except under the following conditions:

(i) The Administrator may approve unscheduled maintenance on durability-data vehicles based upon a significant change in emission levels that indicates a vehicle or engine malfunction. In these cases the Administrator may first approve specific diagnostic procedures to identify the source of the problem. The Administrator may further approve of specific corrections to the problem after the problem has been identified. The Administrator may only approve the corrective action after it is determined that:

(A) The malfunction was caused by nonproduction build practices or by a previously undetected design problem,

(B) The malfunction will not occur in production vehicles or engines in-use, *and*

(C) The deterioration factor generated by the durability-data vehicle or engine will remain unaffected by the malfunction or by the corrective action (*e.g.*, the malfunction was present for only a short period of time before detection, replacement parts are functionally representative of the proper mileage or hours, etc.).

(ii) Following any unscheduled maintenance approved under paragraph (d)(3)(i) of this section, the manufacturer shall perform an after-maintenance emissions test. If the Administrator determines that the after-maintenance emission levels for any pollutant indicates that the deterioration factor is no longer representative of production, the Administrator may disqualify the durability-data vehicle or engine.

(4) If the Administrator determines that part failure or system malfunction occurrence and/or repair rendered the vehicle/engine unrepresentative of vehicles in-use, the vehicle/engine shall not be used for determining deterioration factors.

(5) Repairs to vehicle components of a durability data vehicle other than the engine, emission control system, or fuel system, shall be performed only as a result of part failure, vehicle system malfunction, or with the advance approval of the Administrator.

(e) Maintenance on emission data vehicles and engines.

(1) Adjustment of engine idle speed on emission data vehicles may be performed once before the low-mileage/low-hour emission test point. Any other engine, emission control system, or fuel system adjustment, repair, removal, disassembly, cleaning, or replacement on emission data vehicles shall be performed only with the advance approval of the Administrator.

(2) Maintenance on light-duty truck emission-data vehicles selected under § 86.085–24(b)(1)(v) or (b)(1)(viii) and permitted to be tested for purposes of § 86.087–23(c)(1)(ii) under the provisions of § 86.087–24(b)(2) may be performed in conjunction with emission control system modifications at the low-mileage test point, and shall be performed in accordance with the maintenance instructions to be provided to the ultimate purchaser required under § 86.087–38.

(3) Maintenance on those light-duty truck emission-data vehicles selected under § 86.087–24(b)(1)(v) which are not capable of being modified in the field for the purpose of complying with emission standards at an altitude other than that intended by the original design, may be performed in conjunction with the emission control system modifications at the low-mileage test point, and shall be approved in advance by the Administrator.

(4) Repairs to vehicle components of an emission data vehicle other than the engine, emission control system, or fuel system, shall be performed only as a result of part failure, vehicle system malfunction, or with the advance approval of the Administrator.

(f) Equipment, instruments, or tools may not be used to identify malfunctioning, maladjusted, or defective engine components unless the same or equivalent equipment, instruments, or tools will be available to dealerships and other service outlets and:

(1) Are used in conjunction with scheduled maintenance on such components, or

(2) Are used subsequent to the identification of a vehicle or engine malfunction, as provided in paragraph (d)(2) of this section for durability data vehicles or in paragraph (e)(1) of this section for emission-data vehicles, or

(3) Unless specifically authroized by the Administrator.

(g)(1) Paragraph (g) of this section applies to light-duty vehicles.

(2) Complete emission tests (see §§ 86.106 through 86.145) are required, unless waived by the Administrator, before and after scheduled maintenance approved for durability data vehicles. The manufacturer may perform emission tests before unscheduled maintenance. Complete emission tests are required after unscheduled maintenance which may reaonsably be expected to affect emissions. The Administrator may waive the requirement to test after unscheduled maintenance. These test data may be submitted weekly to the Administrator, but shall be air posted or delivered within 7 days after completion of the tests, along with a complete record of all pertinent maintenance, including a preliminary engineering report of any malfunction diagnosis and the corrective action taken. A complete engineering report shall be delivered to the Administrator concurrently with the manufacturer's application for certification.

(h) All test data, maintenance reports, and required engineering reports shall be compiled and provided to the Administrator in accordance with § 86.087–23.

9. Section 86.087–28 of Subpart A is proposed to be amended by revising paragraphs (b)(4)(ii) and (b)(6)(ii)(C) introductory text, to read as follows:

§ 86.087–28 Compliance with emission standards.

* * * * *

(b) * * *

(4) * * *

(ii) Separate exhaust emission deterioration factors, determined by tests of vehicles, engines, subsystems, or components conducted by the manufacturer, shall be supplied for each engine-system combination. Separate factors shall be established for transient HC, CO, and NO_x, idle CO (gasoline vehicles only), and exhaust particulate (diesel vehicles only).

* * * * *

(6) * * *

(ii) * * *

(C) *Line crossing.* For the purposes of paragraph (b)(5) of this section, line crossing occurs when either of the interpolated 4,000- and 120,000-mile points of the best fit straight line exceed the applicable emission standard and at least one applicable data point exceeds the standard.

* * * * *

10. A new § 86.087–38 is proposed to be added to Subpart A, to read as follows:

§ 86.087–38 Maintenance instructions.

(a) The manufacturer shall furnish or cause to be furnished to the purchaser of each new motor vehicle (or motor vehicle engine) subject to the standards prescribed in § 86.087–8, § 86.087–9, § 86.087–10, or § 86.087–11, as applicable, written instructions for the proper maintenance and use of the vehicle (or engine) by the purchaser consistent with the provisions of § 86.087–25.

(1) Such instructions shall be in clear, and to the extent practicable, nontechnical language.

(2) The maintenance instructions required by this section shall contain a general description of the documentation which the manufacturer will require from the ultimate purchaser or any subsequent purchaser as evidence of compliance with the instructions.

(b) Such instructions shall specify the performance of all scheduled maintenance performed by the manufacturer under § 86.087–25(b) and § 86.087–25(c).

(c) Scheduled emission-related maintenance in addition to that performed under § 86.087–25(b) may only be recommended to offset the effects of abnormal in-use operating conditions. The manufacturer shall be required to demonstrate that such maintenance is reasonable and technologically necessary. Such additional recommended maintenance shall be clearly differentiated, in a form approved by the Administrator, from that approved under § 86.087–25(b). The instructions may schedule maintenance on a calendar time basis, mileage basis, engine service time basis, or combinations of each.

(d) Inspections of emission-related parts or systems with instructions to replace, repair, clean, or adjust the parts or systems if necessary, are not considered to be items of scheduled maintenance which insure the proper functioning of the emission control system. Such inspections may be included in the written instructions furnished to vehicle owners under paragraph (a) of this section: *Provided*, that such instructions clearly state that the owner need not perform such inspections in order to take advantage of emission warranties and recalls.

(e) If the vehicle has been granted an alternative useful-life period under the provisions of § 86.087–21(f) the manufacturer may choose to include in such instructions an explanation of the distinction between the alternative useful life specified on the label, and the emissions defect and emissions performance warranty period. The explanation must clearly state that the useful life period specified on the label represents the average period of use up to retirement or rebuild for the engine family used in the vehicle. An explanation of how the actual useful lives of engines used in various applications are expected to differ from the average useful life may be included. The explanation(s) shall be in clear, nontechnical language that is understandable to the ultimate purchaser.

(f) If allowed, such instructions shall indicate what adjustments or modifications, if any, are necessary to allow the vehicle to meet applicable emission standards at elevations above 4,000 feet, or at elevations of 4,000 feet or less.

11. A new § 86.090–2 is proposed to be added to Subpart A, to read as follows:

§ 86.090–2 Definitions.

The definitions of § 86.087–2 remain effective. The definitions listed in this section apply beginning with the 1990 model year.

"Weighted particulate emission level for a manufacturer who elects to participate in the heavy-duty diesel engine particulate averaging program" means a weighted average of the manufacturer's family particulate limits within the subclass (light, medium, or heavy) being averaged, to account for differences in production volume and rated BHP. It is calculated at the end of the model year for determining compliance with the standard by summing, for all engine families in the subclass being averaged, the products per engine family of production volume, BHP rating, and family particulate emission level, and dividing by the sum for these engine families of the products per engine family of production volume and BHP rating. Expressed mathematically the calculation is as follows:

$$WPL = \frac{\sum_{i=1}^{n} (P_i \times HP_i \times FEL_i)}{\sum_{i=1}^{n} (P_i \times HP_i)}$$

Where:

WPL = the weighted particulate emission level of the family particulate limits for all the manufacturer's engine families included in the averaging program.

n = the number of engine families included in the subclass (light, medium, or heavy) being averaged.

P = the manufacturer's production of a given engine family during the model year.

HP = the production weighted horsepower rating for that engine family, in brake horsepower.

FEL = the family particulate emission limit for that engine family, in grams per brake horsepower-hour.

Those vehicles produced for sale in California or at high altitude shall each be averaged separately from those produced for sale in any other area. Engines for use in urban buses shall be excluded from participation in any averaging program.

"Weighted particulate emission level for light-duty vehicles and light-duty trucks" means the manufacturer's production-weighted average particulate emission level, for certification purposes, of all diesel engine families in a class included in the particulate averaging program. It is calculated at the end of the model year by multiplying each family particulate emission limit by its respective production, summing these terms, and dividing the sum by the total production of the affected families. Those vehicles produced for sale in California or at high altitude shall each be averaged separately from those produced for sale in any other area.

"Urban bus" means a heavy-duty diesel-powered passenger-carrying vehicle with a load capacity of fifteen or more passengers and intended primarily for intra-city operation, *i.e.*, within the confines of a city or greater metropolitan area. Urban bus operation is characterized by short rides and frequent stops. To facilitate this type of operation, more than one set of quick-opening entrance and exit doors would normally be installed. Since fares are usually paid in cash or tokens rather than purchased in advance in the form of tickets, urban buses would normally have equipment installed for collection of fares. Urban buses are also typically characterized by the absense of equipment and facilities for long distance travel, *e.g.*, rest rooms, large luggage compartments, and facilities for stowing carry-on luggage.

12. A new § 86.090–10 is proposed to be added to Subpart A, to read as follows:

§ 86.090–10 Emission standards for 1990 and later model year gasoline-fueled heavy-duty engines and vehicles.

(a)(1) Exhaust emissions from new 1990 and later model year gasoline-fueled heavy-duty engines shall not exceed:

(i) For engines intended for use in all vehicles except as provided in paragraph (a)(3) of this section,

(A) *Hydrocarbons.* 1.1 grams per brake horsepower-hour, as measured under transient operating conditions.

(B) *Carbon monoxide.* (*1*) 14.4 grams per brake horsepower-hour, as measured under transient operating conditions.

(*2*) *Gasoline-fueled heavy-duty engines utilizing aftertreatment technology.* 0.50 percent of exhaust gas flow at curb idle.

(C) *Oxides of nitrogen.* 4.0 grams per brake horsepower-hour, as measured under transient operating conditions.

(ii) For engines intended for use only in vehicles with a Gross Vehicle Weight Rating of greater than 14,00 pounds,

(A) *Hydrocarbons.* 1.9 grams per brake horsepower-hour, as measured under transient operating conditions.

(B) *Carbon Monoxide.* (*1*) 37.1 grams per brake hoursepower-hour, as measured under transient operating conditions.

(*2*) *Gasoline-fueled heavy-duty engines utilizing aftertreatment technology. 0.50 percent of exhaust gas flow at curb idle.*

(C) *Oxides of nitrogen.* 4.0 grams per brake hoursepower-hour, as measured under transient operating conditions.

(2) the standards set forth in paragraph (a)(1) of this section refer to the exhaust emitted over the operating schedule set forth in paragraph (f)(1) of Appendix I to this part, and measured and calculated in accordance with the procedures set forth in Subparts N or P.

(3)(i) A manufacturer may certify one or more gasoline-fueled heavy-duty engine configurations intended for use in all vehicles to the emission standards set forth in paragraph (a)(1)(ii) of this section: *Provided,* that the total model year sales of such configuration(s) being certified to the emission standards in paragraph (a)(1)(ii) of this section represent no more than 5 percent of total model year sales of all gasoline-fueled heavy-duty engines intended for use in vehicles with a Gross Vehicle Weight Rating of up to 14,000 pounds by the manufacturer.

(ii) The configurations certified to the emission standards of paragraph (a)(1)(ii) of this section under the provisions of paragraph (a)(3)(i) of this section shall still be required to meet the evaporative emission standards set forth in paragraphs (b)(1)(i)(A) and (b)(2)(i) of this section.

(b)(1) Evaporative emissions from 1990 and later model year gasoline-fueled heavy-duty vehicles shall not exceed:

(i) *Hydrocarbons.* (A) For vehicles with a Gross Vehicle Weight Rating of up to 14,000 pounds, 3.0 grams per test.

(B) For vehicles with a Gross Vehicle Weight Rating of greater than 14,000 pounds, 4.0 grams per test.

(2)(i) For vehicles with a Gross Vehicle Weight Rating of up to 26,000 pounds, the standards set forth in paragraph (b)(1)(i) of this section refer to a composite sample of fuel evaporative emissions collected under the conditions set forth in Subpart M and measured in accordance with those procedures.

(ii) For vehicles with a Gross Vehicle Weight Rating of greater than 26,000 pounds, the standard set forth in paragraph (b)(1)(i)(B) of this section refers to the manufacturer's engineering design evaluation using good engineering practice (a statement of which is required in § 86.090–23(b)(4)(ii)).

(c) No crankcase emissions shall be discharged into the ambient atmosphere from any new 1990 or later model year gasoline-fueled heavy-duty engine.

(d) Every manufacturer of new motor vehicle engines subject to the standards prescribed in this section shall, prior to taking any of the actions specified in Section 203(a)(1) of the Act, test or cause to be tested motor vehicle engines in accordance with applicable procedures in Subparts N or P of this part to ascertain that such test engines meet the requirements of paragraphs (a) and (c) of this section.

13. A new § 86.090–11 is proposed to be added to Subpart A, to read as follows:

§ 86.090–11 Emission standards for 1990 and later model year diesel heavy-duty engines.

(a)(1) Exhaust emissions from new 1990 and later model year diesel heavy-duty engines shall not exceed the following:

(i) *Hydrocarbons.* 1.3 grams per brake horsepower-hour, as measured under transient operating conditions.

(ii) *Carbon monoxide.* 15.5 grams per brake horsepower-hour, as measured under transient operating conditions.

(iii) *Oxides of nitrogen.* 4.0 grams per brake horsepower-hour, as measured under transient operating conditions.

(iv) *Particulate emissions.* (A) For engines to be used in urban buses, 0.10 grams per BHP-hr, as measured under transient operating conditions. Engines for use in urban buses may not participate in the heavy-duty particulate averaging program.

(B) For all other engines, 0.25 grams per brake horsepower-hour, as measured under transient operating conditions. A manufacturer may elect to include all or some of its heavy-duty diesel engine families, exclusive of engines to be used in uran buses, in the heavy-duty particulate averaging program, provided that engines produced for sale in California or in designated high-altitude areas may be averaged only within each of those areas. Averaging will be limited to engines within a given primary service class as defined in § 86.085–2. Averaging across primary service classes is not permitted. If the manufacturer elects to practicipate in the averaging program, individual family particulate limits may not exceed 0.60 grams per brake horsepower-hour.

(2) The standards set forth in paragraph (a)(1) of this section refer to the exhaust emitted over operating schedules as set forth in paragraph (f)(2) of Appendix I of this part, and measured and calculated in accordance with the procedures set forth in Subpart N of this part, except as noted in § 86.090–23(c)(2)(i) and (iii).

(b)(1) The opacity of smoke emission from new 1990 and later model year diesel heavy-duty engines shall not exceed:

(i) 20 percent during the engine acceleration mode.

(ii) 15 percent during the engine lugging mode.

(iii) 50 percent during the peaks in either mode.

(2) The standards set forth in paragraph (b)(1) of this section refer to exhaust smoke emissions generated under the conditions set forth in Subpart I of this part and measured and calculated in accordance with those procedures.

(c) No crankcase emissions shall be discharged into the ambient atmosphere from any new 1990 model year naturally-aspirated diesel heavy-duty engine. This provision does not apply to engines using turbochargers, pumps, blowers, or superchargers for air induction.

(d)(1) Model year 1990 and later heavy-duty diesel engines sold for principal use at a designated high-altitude location shall be capable of meeting the following exhaust emission standards when tested under high-altitude conditions:

(i) *Particulate emissions.* 0.30 grams per brake-horsepower-hour, as measured under transient operating conditions.

(e) Except as provided in § 86.087–24(b)(3)(iv)(A), every manufacturer of new motor vehicle engines subject to the standards prescribed in this section shall, prior to taking any of the actions specified in section 203(a)(1) of the Act, test or cause to be tested motor vehicle engines in accordance with applicable procedures in Subpart I or N of this part

to ascertain that such test engines meet the requirements of paragraphs (a), (b), (c) and (d) of this section.

14. A new § 86.090–21 is proposed to be added to Subpart A, to read as follows:

§ 86–090–21 Application for certification.

(a) A separate application for a certificate of conformity shall be made for each set of standards (or family particulate emission limits, as appropriate) and each class of new motor vehicles or new motor vehicle engines. Such application shall be made to the Administrator by the manufacturer and shall be updated and corrected by amendment.

(b) The application shall be in writing, signed by an authorized representative of the manufacturer, and shall include the following:

(1)(i) Identification and description of the vehicles (or engines) covered by the application and a description of their engine (vehicles only), emission control system and fuel system components. This shall include a detailed description of each auxiliary emission control device (AECD) to be installed in or on any certification test vehicle (or certification test engine).

(ii)(A) The manufacturer shall provide to the Administrator in the preliminary application for certification:

(*1*) A list of those parameters which are physically capable of being adjusted (including those adjustable parameters for which access is difficult) and that, if adjusted to settings other than the manufacturer's recommended setting, may affect emissions;

(*2*) A specification of the manufacturer's intended physically adjustable range of each such parameter, and the production tolerances of the limits or stops used to establish the physically adjustable range;

(*3*) A description of the limits or stops used to establish the manufacturer's intended physically adjustable range of each adjustable parameter, or any other means used to inhibit adjustment;

(*4*) The nominal or recommended setting, and the associated production tolerances, for each such parameter.

(B) The manufacturer may provide, in the preliminary application for certification, information relating to why certain parameters are not expected to be adjusted in actual use and to why the physical limits or stops used to establish the physically adjustable range of each parameter, or any other means used to inhibit adjustment, are expected to be effective in preventing adjustment of parameters on in-use vehicles to settings outside the manufacturer's intended physically adjustable ranges. This may include results of any tests to determine the difficulty of gaining access to an adjustment or exceeding a limit as intended or recommended by the manufacturer.

(C) The Administrator may require to be provided detailed drawings and descriptions of the various emission related components, and/or hardware samples of such components, for the purpose of making his determination of which vehicle or engine parameter will be subject to adjustment for new certification and Selective Enforcement Audit testing and of the physically adjustable range for each such vehicle or engine parameter.

(2) Projected U.S. sales data sufficient to enable the Administrator to select a test fleet representative of the vehicles (or engines) for which certification is requested. The sales data shall also include the altitude of intended sale for light-duty trucks.

(3) A description of the test equipment and fuel proposed to be used.

(4)(i) For light-duty vehicles and light-duty trucks, a description of the test procedures to be used to establish the evaporative emission deterioration factors requried to be determined and supplied in § 86.090–23(b)(2).

(ii) For gasoline-fueled heavy-duty vehicles, the Administrator does not assume that each evaporative emission family-evaporative emission control system combination will deteriorate in a unique manner during the useful life of the vehicle. The manufacturer shall therefore identify those evaporative emission deterioration factors which shall be applied to the various evaporative emission family-evaporative emission control system combinations which are expected to exhibit similar deterioration characteristics during the useful life of the vehicle.

(iii)(A) A description of the test procedures to be used to establish the durability data or the exhaust emission deterioration factors required to be determined and supplied in § 86.090–23 (b)(1).

(B)(*1*) For engine families provided an alternative useful life period under paragraph (f) of this section, a statement of that alternative period and a brief synopsis of the justification.

(*2*) For heavy-duty diesel engine families, a statement of the primary intended service class (light, medium, or heavy) and an explanation as to why that service class was selected. Each diesel engine family shall be certified under one primary intended service class only. After reviewing the guidance in § 86.085–2, the class shall be determined on the basis of which class best represents the majority of the sales of that engine family.

(C)(*1*) For each light-duty truck engine family and each heavy-duty engine family, a statement of recommended maintenance and procedures necessary to assure that the vehicles (or engines) covered by a certificate of conformity in operation conform to the regulations, and a description of the program for training of personnel for such maintenance, and the equipment required.

(*2*) A description of vehicle adjustments or modifications necessary, if any, to assure that light-duty trucks covered by a certificate of conformity conform to the regulations while being operated at any altitude locations, and a statement of the altitude at which the adjustments or modifications apply.

(D) At the option of the manufacturer, the proposed composition of the emission-data test fleet or (where applicable) the durability-data test fleet.

(5)(i)(A) If the manufacturer elects to participate in the particulate averaging program for diesel light-duty vehicles and/or diesel light-duty trucks, the application must list the family particulate emission limit and the projected U.S. production volume of the family for the model year.

(B) If the manufacturer elects to participate in the particulate averaging program for heavy-duty diesel engines, the application must list the family particulate emission limit, the rated brake horsepower for each differing horsepower configuration, the engine subclass as defined in § 86.085–2, and the projected U.S. production of each horsepower configuration for the model year.

(B) If the manufacturer elects to participate in the particulate averaging program for heavy-duty diesel engines, the application must list the family particulate emission limit, the rated brake horsepower for each differing horsepower configuration, the engine subclass as defined in § 86.085–2, and the projected U.S. production of each horsepower configuration for the model year.

(C) The manufacturer shall choose the level of the family particulate emission limits, accurate to one one-hundredth (0.01) of a gram per mile.

(D) The manufacturer may at any time during production elect to change the level of any family diesel particulate emission limit(s) by submitting the new limit(s) to the Administrator and by demonstrating compliance with the limit(s) as described in § 86.090–2 and § 86.090–28(b)(5).

(6) For gasoline-fueled heavy-duty engines, the application must state whether the engine family is being certified for use in all vehicles regardless of their Gross Vehicle Weight Rating (see § 86.090–10 (a)(1)(i) and (a)(3)(i)), or, only for use in vehicles with a Gross Vehicle Weight Rating greater than 14,000 pounds.

(ii) If the engine family is being certified for use in all vehicles, and is being certified to the emission standards applicable to gasoline-fueled heavy-duty engines for use only in vehicles with a Gross Vehicle Weight Rating over 14,000 pounds udner the provisions of § 86.090–10(a)(3), then the application must also attest that the engine family, together with all other engine families being certified under the provisions of § 86.090–10(a)(3), represent no more than 5 percent of model year sales of the manufacturer of all gasoline-fueled heavy-duty engines for use in vehicles with Gross Vehicle Weight Ratings of up to 14,000 pounds.

(iii)(A) A description of the test procedures to be used to establish the durability data or the exhaust emission deterioration factors required to be determined and supplied in § 86.090–23(b)(1)

(B)(*1*) A statement of the useful life of use of each light-duty truck engine family and heavy-duty engine family.

(*2*) For engine families provided an alternative useful life period under paragraph (f) of this section, a statement of that alternative period and a brief synopsis of the justification.

(*3*) For heavy-duty diesel engine families, a statement of the primary intended service class (light, medium, or heavy) and an explanation as to why that service class was selected. Each diesel engine family shall be certified under one primary intended service class only. After reviewing the guidance in § 86.085–2, the class shall be determined on the basis of which class best represents the majority of the sales of that engine family.

(C)(*1*) For each light-duty truck engine family and each heavy-duty engine family, a statement of recommended maintenance and procedures necessary to assure that the vehicles (or engines) covered by a certificate of conformity in operation conform to the regulations while being operated at any altitude locations, and a description of the program for training of personnel for such maintenance, and the equipment required.

(*2*) A description of vehicle adjustments or modifications necessary, if any, to assure that light-duty trucks covered by a certificate of conformity conform to the regulations, and a statement of the altitude at which the adjustments of modifications apply.

(D) At the option of the manufacturer, the proposed composition of the emission-data test fleet or (where applicable) the durability-data test fleet.

(c) Complete copies of the application and of any amendments thereto, and all notifications under § 86.079–32, § 86.079–33, and § 86.082–34 shall be submitted in such multiple copies as the Administrator may require.

(d) Incomplete light-duty trucks shall have a maximum completed curb weight and maximum completed frontal area specified by the manufacturer.

(e) For gasoline-fueled heavy-duty vehicles, the manufacturer shall specify a maximum nominal fuel tank capacity for each evaporative emission family-evaporative emission control system combination.

(f) Light-duty truck and heavy-duty engine manufacturers who believe that the useful life periods of § 86.085–2 are significantly unrepresentative for one or more engine families (either too long or too short), may petition the Administrator to provide an alternative useful-life period. This petition must include the full rationale behind the request together with any supporting data and other evidence. Based on this or other information the Administrator may assign an alternative useful-life period. Any petition should be submitted in a timely manner, to allow adequate time for a thorough evaluation.

15. A new § 86.090–23 is proposed to be added to Subpart A, to read as follows:

§ 86.090–23 Required data.

(a) The manufacturer shall perform the tests required by the applicable test procedures, and submit to the Administrator the following information: *Provided, however*, that if requested by the manufacturer, the Administrator may waive any requirement of this section for testing of vehicle (or engine) for which emission data are available or will be made available under the provisions of § 86.090–29.

(b)(1)(i) Exhaust emission durability data on such light-duty vehicles tested in accordance with applicable test procedures and in such numbers as specified, which will show the performance of the systems installed on or incorporated in the vehicle for extended mileage, as well as a record of all pertinent maintenance performed on the test vehicles.

(ii) Exhaust emission deterioration factors for light-duty trucks and heavy-duty engines and all test data that are derived from the testing described under § 86.090–21(b)(4)(iii)(A) as well as a record of all pertinent maintenance. Such testing shall be designed and conducted in accordance with good engineering practice to assure that the engines covered by a certificate issued under § 86.090–30 will meet the emission standards (or family particulate emission limits, as appropriate) in § 86.087–9, § 86.090–10, or § 86.090–11 as appropriate, in actual use for the useful life of the engine.

(2) For light-duty vehicles and light-duty trucks, evaporative emission deterioration factors for each evaporative emission family-evaporative emission control system combination, and all test data that are derived from testing described under §86.090–21 (b)(4)(i), designed and conducted in accordance with good engineering practice, to assure that the vehicles covered by a certificate issued under § 86.090–30 will meet the evaporative emission standards in § 86.087–8 or § 86.087–9, as appropriate, for the useful life of the vehicle.

(3) For gasoline-fueled heavy-duty vehicles, evaporative emission deterioration factors for each evaporative emission family-evaporative emission control system combination identified in accordance with § 86.090–21(b)(4)(ii). Furthermore, a statement that the test procedure(s) used to derive the deterioration factors includes, but need not be limited to, a consideration of the ambient effects of ozone and temperature fluctuations, and the service accumulation effects of vibration, time, and vapor saturation and purge cycling. The deterioration factor test procedure shall be designed and conducted in accordance with good engineering practice to assure that the vehicles covered by a certificate issued under § 86.090–30 will meet the evaporative emission standards in § 86.090–10 in actual use for the useful life of the engine. Furthermore, a statement that a description of the test procedure, as well as all data, analyses and evaluations, is available to the Administrator upon request.

(4) (i) For gasoline-fueled heavy-duty vehicles with a Gross Vehicle Weight Rating of up to 26,000 pounds, a written statement to the Administrator certifying that the manufacturer's vehicles meet the standards of § 86.090–10 as determined by the provisions of § 86.090–28. Furthermore, a written statement to the Administrator that all data, analyses, test procedures, evaluations, and other documents on which the above statement is based are available to the Administrator upon request.

(ii) For gasoline-fueled heavy-duty vehicles with a Gross Vehicle Weight Rating of greater than 26,000 pounds, a written statement to the Administrator certifying that the manufacturer's evaporative emission control systems are designed, using good engineering practice, to meet the standards of § 86.090–10 as determined by the provisions of § 86.090–28. Furthermore, a written statement to the Administrator that all data, analyses, test procedures, evaluations, and other documents on which the above statement is based are available to the Administrator upon request.

(c) Emission data.

(1)(i) Emission data on such vehicles tested in accordance with applicable test procedures and in such numbers as specified. These data shall include zero-mile data, if generated, and emission data generated for certification as required under § 86.084–26(a)(3) (i) or (ii).

(ii) [Reserved]

(2) *Certification engines.* (i) Emission data on such engines tested in accordance with applicable emission test procedures of this subpart and in such numbers as specified. These data shall include zero-hour data, if generated, and emission data generated for certification as required under § 86.084–26(b)(5). In lieu of providing emission data on CO emissions from diesel certification engines the Administrator may, on request of the manufacturer, allow the manufacturer to demonstrate (on the basis of previous emission tests, development tests, or other information) that the engine will conform with the CO emission standard of § 86.090–11.

(ii) For heavy-duty diesel engines, a manufacturer may submit hot-start data only, in accordance with Subpart N, when making application for certification. However, for conformity SEA and recall testing by the Agency, both the cold-start and hot-start test data, as specified in Subpart N, will be included in the official results.

(d) A statement that the vehicles (or engines) for which certification is requested conform to the requirements in § 86.078–5(b), and that the descriptions of tests performed to ascertain compliance with the general standards in § 86.078–5(b), and the data derived from such tests, are available to the Administrator upon request.

(e)(1) A statement that the test vehicles (or test engines) with respect to which data are submitted to demonstrate compliance with the applicable standards (or family particulate emission limits, as appropriate) of this subpart are in all material respects as described in the manufacturer's application for certification, have been tested in accordance with the applicable test procedures utilizing the fuels and equipment described in the application for certification, and that on the basis of such tests the vehicles (or engines) conform to the requirements of this part. If such statements cannot be made with respect to any vehicle (or engine) tested, the vehicle (or engine) shall be indentified, and all pertinent data relating thereto shall be supplied to the Administrator. If, on the basis of the data supplied and any additional data as required by the Administrator, the Administrator determines that the test vehicles (or test engine) was not as described in the application for certification or was not tested in accordance with the applicable test procedures utilizing the fuels and equipment as described in the application for certification, the Administrator may make the determination that the vehicle (or engine) does not meet the applicable standards (or family particulate emission limits, as appropriate). The provisions of § 86.090–30(b) shall then be followed.

(2) For evaporative emission durability, or light-duty truck or heavy-duty engine exhaust emission durability, a statement of compliance with paragraph (b)(1)(ii), (b)(2), or (b)(3) of this section, as applicable.

(f) Additionally, manufacturers participating in one or both of the diesel particulate averaging programs shall submit:

(1) In the application for certification, a statement that the vehicles or engines for which certification is requested will not, to the best of the manufacturer's belief, when included in the manufacturer's weighted particulate average emission level(s), cause the applicable particulate standard(s) to be exceeded.

(2) No longer than 90 days after the end of a given model year of production of engine families included in the diesel particulate averaging program(s), the number of vehicles or engines produced in each engine family (and horsepower configuration for heavy-duty diesel engines) at each certified family diesel particulate emission limit, their subclass and rated brake horsepower (heavy-duty diesel engines only), and the manufacturers' resulting weighted particulate emission level(s).

16. A new § 86.090–28 is proposed to be added to Subpart A, to read as follows:

§ 86.090–28 Compliance with emission standards.

(a)(1) Paragraph (a) of this section applies to light-duty vehicles.

(2) The applicable exhaust and fuel evaporative emission standards (and family particulate emission limits, as appropriate) of this subpart apply to the emissions of vehicles for their useful life.

(3) Since it is expected that emission control efficiency will change with mileage accumulation on the vehicle, the emission level of a vehicle which has accumulated 50,000 miles will be used as the basis for determining compliance with the standards (or family particulate emission limit, as appropriate).

(4) The procedure for determining compliance of a new motor vehicle with exhaust emission standards (or family particulate emission limit, as appropriate) is as follows, except where specified by paragraph (a)(7) of this section for the Alternative Durability Program:

(i) Separate emission deterioration factors shall be determined from the exhaust emission results of the durability-data vehicle(s) for each engine-system combination. A separate factor shall be established for exhaust HC, exhaust CO, exhaust NO_x, and exhaust particulate (diesel vehicles only) for each engine-system combination. A separate evaporative emission deterioration factor shall be determined for each evaporative emission family-evaporative emission control system combination from the testing conducted by the manufacturer (gasoline-fueled vehicles only).

(A) The applicable results to be used, unless excluded by paragraph (a)(4)(i)(A)(*4*) of this section, in determining the exhaust emission deterioration factors for each engine-system combination shall be:

(*1*) All valid exhaust emission data from the tests required under § 86.084–26(a)(4) except the zero-mile tests. This shall include the official test results, as determined in § 86.090–29 for all tests conducted on all durability-data vehicles of the combination selected under § 86.085–24(c) (including all vehicles elected to be operated by the manufacturer under § 86.085–24(c)(1)(ii)).

(*2*) All exhaust emission data from the tests conducted before and after the scheduled maintenance provided in § 86.087–25.

(*3*) All exhaust emission data from tests required by maintenance approved under § 86.087–25, in those cases where the Administrator conditioned his approval for the performance of such maintenance on the inclusion of such

data in the deterioration factor calculation.

(4) The manufacturer has the option of applying an outlier test point procedure to completed durability data within its certification testing program for a given model year. The outlier procedure will be specified by the Administrator. For any pollutant, durability-data test points that are identified as outliers shall not be included in the determination of deterioration factors if the manufacturer has elected this option. The manufacturer shall specify to the Administrator before the certification of the first engine family for that model year, if it intends to use the outlier procedure. The manufacturer may not change procedures after the first engine family of the model year is certified. Where the manufacturer chooses to apply both the outlier procedure and averaging (as allowed under §86.084–26(b)(8)(ii)) to the same data set, the outliner procedure shall be completed prior to applying the averaging procedure.

(B) All applicable exhaust emission results shall be plotted as a function of the mileage on the system, rounded to the nearest mile, and the best fit straight lines, fitted by the method of least squares, shall be drawn through all these data points. The data will be acceptable for use in the calculation of the deterioration factor only if the interpolated 4,000-mile and 50,000-mile points on this line are within the low-altitude standards provided in § 86.087–8 or § 86.087–9, as applicable. Exceptions to this where data are still acceptable are when a best fit straight line crosses an applicable standard but no data points exceeded the standard, or the best fit straight line crosses and applicable standard with a negative slope (the 4,000-mile interpolated point is higher than the 50,000-mile interpolated point) but the 50,000-mile actual data point is below the standard. An multiplicative exhaust emission deterioration factor shall be calculated for each engine-system combination as follows:

Factor=Exhaust emissions interpolated to 50,000 miles divided by exhaust emissions interpolated to 4,000 miles.

These interpolated values shall be carried out to a minimum of four places to the right of the decimal point before dividing one by the other to determine the deterioration factor. The results shall be rounded to three places to the right of the decimal point in accordance with ASTM E 29–67.

(C) An evaporative emissions deterioration factor (gasoline-fueled vehicles only) shall be determined from the testing conducted as described in § 86.090–21(b)(4)(i), for each evaporative emission family-evaporative emission control system combination to indicate the evaporative emission level at 50,000 miles relative to the evaporative emission level at 4,000 miles as follows:

Factor=Evaporative emission level at 50,000 miles minus the evaporative emission level at 4,000 miles.

The factor shall be established to a minimum of two places to the right of the decimal.

(ii)(A) The official exhaust emission test results for each emission-data evehicle at the selected test point shall be multiplied by the appropriate deterioration factor: *Provided*, that if a deterioration factor as computed in pargaraph (a)(4)(i)(B) of this section is less than one, that deterioration factor shall be one for the purposes of this paragraph.

(B) The official evaporative emission test results (gasoline-fueled vehicles only) for each evaporative emission-data vehicle at the selected test point shall be adjusted by addition of the appropriate deterioration factor: *Provided*, that if a deterioration factor as computed in paragraph (a)(4)(i)(C) of this section is less than zero, that deterioration factor shall be zero for the purposes of this paragraph.

(iii) The emissions to compare with the standard (or the family particulate emission limit, as appropriate) shall be the adjusted emissions or paragraphs (a)(4)(ii)(A) and (B) of this section for each emission-data vehicle. Before any emission value is compared with the standard (or the family particulate emission limit, as appropriate), it shall be rounded, in accordance with ASTM E 29–67, to two significant figures. The rounded emission values may not exceed the standard (or the family particulate emission limit, as appropriate).

(iv) Every test vehicle of an engine family must comply with the exhaust emission standards (or the family particulate emission limit, as appropriate), as determined in paragrah (a)(4)(iii) of this section, before any vehicle in that family may be certified.

(v) Every test vehicle of an evaporative emission family must comply with the evaporative emission standard, as determined in paragraph (a)(4)(iii) of this section before any vehicle in that family may be certified.

(5) If a manufacturer chooses to change the level of any family particulate emission limit(s) in the particulate averaging program, compliance with the new limit(s) must be based upon existing certification data.

(6) If a manufacturer chooses to participate in the diesel particulate averaging program, the production-weighted average of the family particulate emission limits of all affected engine families must comply with the pariculate standards in § 86.087–6(a)(1)(iv) or § 86.087–9(a)(1)(iv), as appropriate, at the end of the production year.

(7) The procedure to determine the compliance of new motor vehicles in the Alternative Durability Program (described in § 86.085–13) is the same as described in paragraphs (a)(4)(iii) through (a)(4)(v) of this section. For the engine families that are included in the Alternative Durability Program, the exhaust emission deterioration factors used to determine compliance shall be those that the Administrator has approved under § 86.085–13(c). The evaporative emission deterioration factor for each evaporative emission family shall be determined and applied according to paragraph (a)(4) of this section. The procedures to determine the minimum exhaust emissions deterioration factors required under § 86.085–13(d) are as follows:

(i) Separate deterioration factors shall be determined from the exhaust emission results of the durability-data vehicles for each engine family group. A separate factor shall be established for exhaust, HC, exhaust CO, and exhaust NO_x for each engine family group. The evaporative emission deterioration factor for each evaporative family will be determined and applied in accordance with paragarph (a)(4) of this section.

(ii) The deterioration factors for each engine family group shall be determined by the Administrator using historical durability data from as many as three previous model years. These data will consist of deterioration factors generated by durability-data vehicles representing certified engine families and of deterioration factors from vehicles selected under § 86.087–24(h). The Administrator shall determine how these data will be combined for each engine family group.

(A) The test results to be used in the calculation of each deterioration factor to be combined for each engine family group shall be those test results specified in paragraph (a)(4)(i)(A) of this section.

(B) For each durability-data vehicles selected under § 86.087–24(h), all applicable exhaust emissions results shall be plotted as a function of the mileage on the system rounded to the

nearest mile, and the best fit straight lines, fitted by method of least squares, shall be drawn through all these data points. The exhaust deterioration factor for each durability-data vehicles shall be calculated as specified in paragraph (a)(4)(i)(B) of this section.

(C) *Line crossing.* For the purposes of paragraph (a)(5) of this section, line crossing occurs when either of the interpolated 4,000- and 50,000-mile points of the best fit straight line exceeds the applicable emission standard and at least one applicable data point exceeds the standard.

(*1*) The Administrator will not accept for certification line-crossing data from preproduction durability-data vehicles selected under § 86.087–24(c), § 86.087–24 (h)(2), or (h)(3).

(*2*) The Administrator will not accept for certification line-crossing data from production durability-data vehicles selected under § 86.087–24(h)(1) unless the 4,000-mile test result multiplied by the engine family group deterioration factor does not exceed the applicable emission standards. The deterioration factors used for this purpose shall be those that were used in the certification of the production vehicle. Manufacturers may calculate this product immediately after the 4,000-mile test of the vehicle. If the product exceeds the applicable standards, the manufacturer may, with the approval of the Administrator, discontinue the vehicle and substitute a new vehicle. The manufacturer may continue the original vehicle, but the data will not be acceptable if line crossing occurs.

(b)(1) Paragraph (b) of this section applies to light-duty trucks.

(2) The exhaust and fuel evaporative emission standards (and the family particulate emission limits, as appropriate) of § 86.087–9 apply to the emissions of vehicles for their useful life.

(3) Since emission control efficiency generally decreases with the accumulation of mileage on the vehicle, deterioration factors will be used in combination with emission-data vehicle test results as the basis for determining compliance with the standards (or the family particulate emission limit, as appropriate).

(4)(i) Paragraph (b)(4) of this section describes the procedure for determining compliance of a new vehicle with exhaust emission standards (or the family particulate emission limit, as appropriate), based on deterioration factors supplied by the manufacturers, except where specified by paragraph (b)(5) of this section for the Alternative Durability Program.

(ii) Separate exhaust emission deterioration factors, determined from tests of vehicles, engines, subsystems, or components conducted by the manufacturer, shall be supplied for each engine-system combination. Separate factors shall be established for transient HC, CO, and NO_x, idle CO (gasoline vehicles only), and exhaust particulate (diesel vehicles only).

(iii) For transient HC, CO, and NO_x, idle CO (gasoline vehicles only), and exhaust particulate (diesel vehicles only), the official exhaust emission results for each emission-data vehicle at the selected test point shall be adjusted by multiplication by the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than one, it shall be one for the purposes of this paragraph.

(iv) The emission values to compare with the standards (or family particulate emission limit, as appropriate) shall be the adjusted emission values of paragraph (b)(4)(iii) of this section rounded to two significant figures in accordance with ASTM E 29–67 for each emission data vehicle.

(5)(i) Paragraph (b)(5) of this section applies only to manufacturers which elect to participate in the particulate averaging program.

(ii) If a manufacturer chooses to change the level of any family particulate emission limit(s), compliance with the new limit(s) must be based upon existing certification data.

(iii) The weighted particulate emission level of the family particulate emission limits of all applicable engine families rounded to two significant figures in accordance with ASTM E 29–67 must comply with the particulate standards in § 86.087–8(a)(1)(iv) or § 86.087–9(a)(1)(iv), as appropriate, at the end of the product year.

(6) The procedure to determine the compliance of new motor vehicles in the Alternative Durability Program (described in § 86.085–13) is the same as described in paragraph (b)(4)(iv), (b)(7)(iv) and (b)(8) of this section. For the engine families that are included in the Alternative Durability Program, the exhaust emission deterioration factors used to determine compliance shall be those that the Administrator has approved under § 86.085–13(c). The evaporative emission deterioration factor for each evaporative emission family shall be determined and applied according to paragraph (b)(7) of this section. The procedures to determine the minimum exhaust emissions deterioration factors required under § 86.085–13(d) are as follows:

(i) Separate deterioration factors shall be determined from the exhaust emission results of the durability-data vehicles for each engine family group. A separate factor shall be established for exhaust HC, exhaust CO, and exhaust NO_x for each engine family group. The evaporative emission deterioration factor for each evaporative family will be determined and applied in accordance with paragraph (b)(6) of this section.

(ii) The deterioration factors for each engine family group shall be determined by the Administrator using historical durability data from as many as three previous model years. These data will consist of deterioration factors generated by durability-data vehicles representing certified engine families and of deterioration factors from vehicles selected under § 86.087–24(h). The Administrator shall determine how these data will be combined for each engine family group.

(A) The test results to be used in the calculations of each deterioration factor to be combined for each engine family group shall be those test results specified in paragraph (a)(4)(i)(A) of this section.

(B) For each durability-data vehicle selected under § 86.087–24(h), all applicable exhaust emission results shall be plotted as a function of the mileage on the system rounded to the nearest mile, and the best fit straight lines, fitted by the method of least squares, shall be drawn through all these data points. The exhaust deterioration factor for each durability-data vehicle shall be calculated as specified in paragraph (a)(4)(i)(B) of this section.

(C) *Line crossing.* For the purposes of paragraph (b)(5) of this section, line crossing occurs when either of the interpolated 4,000- and 120,000-mile points of the best fit straight line exceeds the applicable emission standard and at least one applicable data point exceeds the standard.

(*1*) The Administrator will not accept for certification line-crossing data from preproduction durability-data vehicles selected under § 86.087–24(c)(1), or § 86.087–24 (h)(2) or (h)(3).

(*2*) The Administrator will not accept for certification line-crossing data from production durability-data vehicles selected under § 86.087–24(h)(1) unless the 4,000-mile test result multiplied by the engine family group deterioration factor does not exceed the applicable emission standard. The deterioration factors used for this purpose shall be those that were used in the certification of the production vehicle. Manufacturers may calculate this product immediately after the 4,000-mile test of the vehicle. If the product exceeds the applicable standard, the manufacturer may, with

the approval of the Administrator, discontinue the vehicle and substitute a new vehicle. The manufacturer may continue the original vehicle, but the data will not be accpetable if line crossing occurs.

(7)(i) Paragraph (b)(7) of this section describes the procedure for determining compliance of a new vehicle with fuel evaporative emission standards. The procedure described here shall be used for all vehicles in all model years.

(ii) The manufacturer shall determine, based on testing described in § 86.090–21(b)(4)(i), and supply an evaporative emission deterioration factor for each evaporative emission family-evaporative emission control system combination. The factor shall be calculated by subtracting the emission level at the selected test point from the emission level at the useful life point.

(iii) The official evaporative emission test results for each evaporative emission-data vehicle at the selected test point shall be adjusted by the addition of the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than zero, it shall be zero for the purposes of this paragraph.

(iv) The emission value to compare with the standards shall be the adjusted emission value of paragraph (b)(7)(iii) of this section rounded to two significant figures in accordance with ASTM E 29–67 for each evaporative emission-data vehicle.

(8) Every test vehicle of an engine family must comply with all applicable standards (and the family particulate emission limits, as appropriate), as determined in paragraphs (b)(4)(iv) and (b)(7)(iv) of this section, before any vehicle in that family will be certified.

(c)(1) Paragraph (c) of this section applies to heavy-duty engines.

(2) The exhaust emission standards (and the family particulate emission limits, as appropriate) for gasoline-fueled engines in § 86.090–10 or for diesel engines in § 86.090–11 apply to the emissions of engines for their useful life.

(3) Since emission control efficiency generally decreases with the accumulation of service on the engine, deterioration factors will be used in combination with emission-data engine test results as the basis for determining compliance with the standards.

(4)(i) Paragraph (c)(4) fo this section describes the procedure for determining compliance of an engine with emission standards (or the family particulate emission limit, as appropriate), based on deterioration factors supplied by the manufacturer.

(ii) Separate exhaust emission deterioration factors, determined from tests of engines, subsystems, or components conducted by the manufacturer, shall be supplied for each engine-system combination. For gasoline and diesel engines, separate factors shall be established for transient HC, CO, NO_x and exhaust particulate (diesel engines only). For diesel smoke testing, separate factors shall also be established for the acceleration mode (designated as "A"), the lugging mode (designated as "B"), and peak opacity (designated as "C").

(iii)(A) Paragraph (c)(4)(iii)(A) of this section applies to gasoline-fueled heavy-duty engines.

(*1*) *Gasoline-fueled heavy-duty engines not tilizing aftertreatment technology (e.g., catalytic converters).* For transient HC, CO, and NO_x, the official exhaust emission results for each emission-data engine at the selected test point shall be adjusted by the addition of the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than zero, it shall be zero for the purposes of this paragraph.

(*2*) *Gasoline-fueled heavy-duty engines utilizing aftertreatment technology (e.g., catalytic converters).* For transient HC, CO, and NO_x, the official exhaust emission results for each emission-data engine at the selected test point shall be adjusted by multiplication by the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than one, it shall be one for the purposes of this paragraph.

(B) Paragraph (c)(4)(iii)(B) of this section applies to diesel heavy-duty engines.

(*1*) *Diesel heavy-duty engines not utilizing aftertreatment technology (e.g., particulate traps).* For transient HC, CO, and NO_x, the official exhaust emission results for each emission-data engine at the selected test point shall be adjusted by the addition of the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than zero, it shall be zero for the purposes of this paragraph.

(*2*) *Diesel heavy-duty engines utilizing aftertreatment technology (e.g., particulate traps).* For transient HC, CO, and NO_x, the official exhaust emission results for each emission-data engine at the selected test point shall be adjusted by multiplication by the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than one, it shall be one for the purposes of this paragraph.

(*3*) For acceleration smoke ("A"), lugging smoke ("B"), and peak smoke ("C"), the official exhaust emission results for each emission-data engine at the selected test point shall be adjusted by the addition of the appropriate deterioration factor. However, if the deterioration factor supplied by the manufacturer is less than zero, it shall be zero for the purposes of this paragraph.

(iv) The emission values to compare with the standards (or family particulate emission limits, as appropriate) shall be the adjusted emission values of paragraph (c)(4)(iii) of this section rounded to two significant figures in accordance with ASTM E 29–67 for each emission-data engine.

(5)(i) Paragraph (c)(5) of this section applies only to manufacturers which elect to participate in the particulate averaging program.

(ii) If a manufacturer chooses to change the level of any family particulate emission limit(s), compliance with the new limit(s) must be based upon existing certification data.

(iii) The weighted particulate emission level of the family particulate emission limits of all applicable engine families, rounded to two significant figures in accordance with ASTM E 29–67, must comply with the particulate standards in § 86.090–11(a)(1)(iv) at the end of the production year.

(6) [Reserved]

(7) Every test engine of an engine family must comply with all applicable standards and family particulate emission limits, as appropriate, as determined in paragraph (c)(4)(iv) of this section, before any engine in that family will be certified.

(d)(1) Paragraph (d) of this section applies to gasoline-fueled heavy-duty vehicles.

(2) The applicable fuel evaporative emission standard in § 86.090–10 applies to the emissions of vehicles for their useful life.

(3)(i) For vehicles with a GVWR of up to 26,000 pounds, because it is expected that emission control effeciency will change during the useful life of the vehicle, an evaporative emission deterioration factor shall be determined from the testing described in § 86.090–23(b)(3) for each evaporative emission family-evaporative emission control system combination to indicate the evaporative emission control system deterioration during the useful life of the vehicle (minimum 50,000 miles). The factor shall be established to a minimum of two places to the right of the decimal.

(ii) For vehicles with a GVWR or greater than 26,000 pounds, because it is

expected that emission control effeciency will change during the useful life of the vehicle, each manufacturer's statement as required in § 86.090–23(b)(4)(ii) shall include, in accordance with good engineering practice, consideration of control system deterioration.

(4) The evaporative emission test results, if any, shall be adjusted by the addition of the appropriate deterioration factor: *Provided,* that if the deterioration factor as computed in paragraph (c)(3) of this section is less than zoro, that deterioration factor shall be zero for the purposes of this paragraph.

(5) The emission level to compare with the standard shall be the adjusted emission level of paragraph (c)(4) of this section. Before any emission value is compared with the standard, it shall be rounded, in accordance with ASTM E 29–67, to two significant figures. The rounded emission values may not exceed the standard.

(6) Every test vehicle of an evaporataive emission family must comply with the evaporative emission standard, as determined in paragraph (c)(5) of this section, before any vehicle in that family may be certified.

17. A new § 86.090–29 is proposed to be added to Subpart A, to read as follows:

§ 86.090–29 Testing by the Administrator.

(a)(1) Paragraph (a) of this section applies to light-duty vehicles and light-duty trucks.

(2) The Administrator may require that any one or more of the test vehicles be submitted to him, at such place or places as he may designate, for the purposes of conducting emissions tests. The Administrator may specify that he will conduct such testing at the manufacturer's facility, in which case instrumentation and equipment specified by the Administrator shall be made available by the manufacturer for test operations. Any testing conducted at a manufacturer's facility pursuant to this paragraph shall be scheduled by the manufacturer as promptly as possible.

(3)(i) Whenever the Administrator conducts a test on a test vehicle, the results of that test shall, unless subsequently invalidated by the Administrator, comprise the official data for the vehicle at the prescribed test point and the manufacturer's data for that prescribed test point shall not be used in determining compliance with emission standards (or the family particulate emission limit, as appropriate).

(ii) Whenever the Administrator does not conduct a test on a test vehicle at a test point, the manufacturer's test data will be accepted as the official data for that point: *Provided,* that if the Administrator makes a determination based on testing under paragraph (a)(2) of this section, that there is a lack of correlation between the manufacturer's test equipment and the test equipment used by the Administrator, no manufacturer's test data will be accepted for purposes of certification until the reasons for the lack of correlation are determined and the validity of the data is established by the manufacturer, *and further provided,* that if the Administrator has reasonable basis to believe that any test data submitted by the manufacturer is not accurate or has been obtained in violation of any provisions of this part, the Administrator may refuse to accept that data as the official data pending retesting or submission or further information. If the manufacturer conducts more than one test on a vehicle, as authorized under § 86.084–26(a)(3)(i)(A) or (b)(4)(i)(A), the data from the last test in that series of tests on that vehicle, will constitute the official data.

(iii)(A)(*1*) The Administrator may adjust or cause to be adjusted any adjustable parameter of an emission data vehicle or engine which the Administrator has determined to be subject to adjustment for certification and Selective Enforcement Audit testing in accordance with § 86.085–22(e)(1), to any setting within the physically adjustable range of that parameter, as determined by the Administrator in accordance with § 86.085–22(e)(3)(i), prior to the performance of any tests to determine whether such vehicle or engine conforms to applicable emission standards, including tests performed by the manufacturer under § 86.090–23(c)(1). However, if the idle speed parameter is one which the Administrator has determined to be subject to adjustment, the Administrator shall not adjust it to a setting which causes a higher engine idle speed than would have been possible within the physically adjustable range of the idle speed parameter on the engine before it accumulated any dynamometer service, all other parameters being identically adjusted for the purpose of the comparison. The Administrator, in making or specifying such adjustments, will consider the effects of the deviation from the manufacturer's recommended setting on emissions performance characteristics as well as the likelihood that similar settings will occur on in-use light-duty vehicles or light-duty trucks. In determining likelihood, the Administrator will consider factors such as, but not limited to, the effect of the adjustment on vehicle performance characteristics and surveillance information from similar in-use vehicles.

(*2*) For those vehicles or engine parameters which the Administrator has not determined to be subject to adjustment during certification and Selective Enforcement Audit testing in accordance with § 86.085–22(e)(1), the emission-data vehicle presented to the Administrator for testing shall be calibrated within the production tolerances applicable to the manufacturer's specifications to be shown on the vehicle label (see § 86.090–35(a)(1)(iii)(D) or (a)(2)(iii)(D)) as specified in the application for certification. If the Administrator determines that a vehicle is not within such tolerances, the vehicle will be adjusted, at the facility designated by the Administrator, prior to the test and an engineering report shall be submitted to the Administrator describing the corrective action taken. Based on the engineering report, the Administrator will determine if the vehicle will be used as an emission-data vehicle.

(B) If the Administrator determines that the test data developed on an emission-data vehicle under paragraph (a)(3)(i) of the section would cause that vehicle to fail due to excessive 4,000-mile emissions or by application of the appropriate deterioration factor, then the following procedure shall be observed:

(*1*) The manufacturer may request a retest. Before the retest, those vehicle or engine parameters which the Administrator has not determined to be subject to adjustment for certification and Selective Enforcement Audit testing in accordance with § 86.085–22(e)(1) may be readjusted to manufacturer's specification, if these adjustments were made incorrectly prior to the first test. The Administrator may adjust or cause to be adjusted any parameter which the Administrator has determined to be subject to adjustment to any setting within the physically adjustable range of that parameter, as determined by the Administrator in accordance with § 86.085–22(e)(i). Other maintenance or repairs may be performed in accordance with § 86.087–25. All work on the vehicle shall be done at such location and under such conditions as the Administrator may prescribe.

(*2*) The vehicle will be retested by the Administrator and the results of this test shall comprise the official data for the emission-data vehicle.

(iv) If sufficient durability data are not available at the time of any emission test conducted under paragraph (a)(2) of this section to enable the Administrator

to determine whether an emission-data vehicle would fail, the manufacturer may request a retest in accordance with the provisions of paragraphs (a)(3)(iii)(A) and (B) of this section. If the manufacturer does not promptly make such request, he shall be deemed to have waived the right to a retest. A request for retest must be made before the manufacturer removes the vehicle from the test premises.

(b)(1) Paragraph (b) of this section applies to heavy-duty engines.

(2) The Administrator may require that any one or more of the test engines be submitted to him, at such place or places as he may designate, for the purpose of conducting emissions tests. The Administrator may specify that he will conduct such testing at the manufacturer's facility, in which case instrumentation and equipment specified by the Administrator shall be made available by the manufacturer for test operations. Any testing conducted at a manufacturer's facility pursuant to this paragraph shall be scheduled by the manufacturer as promptly as possible.

(3) (i) Whenever the Administrator conducts a test on a test engine the results of that test, unless subsequently invalidated by the Administrator, shall comprise the official data for the engine at that prescribed test point and the manufacturer's data for that prescribed test point shall not be used in determining compliance with emission standards (or the family particulate emission limit, as appropriate).

(ii) Whenever the Administrator does not conduct a test on a test engine at a test point, the manufacturer's test data will be accepted as the official data for that test point: *Provided,* that if the Administrator makes a determination based on testing under paragraph (b)(2) of this section, that there is a lack of correlation between the manufacturer's test equipment and the test equipment used by the Administrator, no manufacturer's test data will be accepted for purposes of certification until the reasons for the lack of correlation are determined and the validity of the data is established by the manufacturer, *and further provided,* that if the Administrator has reasonable basis to believe that any test data submitted by the manufacturer is not accurate or has been obtained in violation of any provision of this part, the Administrator may refuse to accept that data as the official data pending retesting or submission of further information.

(iii) (A)(*1*) The Administrator may adjust or cause to be adjusted any adjustable parameter of an emission-data engine which the Administrator has determined to be subject to adjustment for certification testing in accordance with § 86.085.22(e)(1), to any setting within the physically adjustable range of that parameter, as determined by the Administrator in accordance with § 86.085–22(e)(3)(i), prior to the performance of any tests to determine whether such engine conforms to applicable emission standards or family particulate emission limits, as appropriate, including tests performed by the manufacturer under § 86.090–23(c)(2). The Administrator, in making or specifying such adjustments, may consider the effect of the deviation from the manufacturer's recommended setting on emissions performance characteristics as well as the likelihood that similar settings will occur on in-use heavy-duty engines. In determining likelihood, the Administrator may consider factors such as, but not limited to, the effect of the adjustment on engine performance characteristics and surveillance information form similar in-use engines.

(*2*) For those engine parameters which the Administrator has not determined to be subject to adjustment for certification testing in accordance with § 86.085–22(e)(1), the emission-data engine presented to the Administrator for testing shall be calibrated within the production tolerances applicable to the manufacturer's specifications to be shown on the engine label (see § 86.090–35(a)(3)(iii)) as specified in the application for certification. If the Administrator determines that an engine is not within such tolerances, the engine shall be adjusted at the facility designated by the Administrator prior to the test and an engineering report shall be submitted to the Administrator describing the corrective action taken. Based on the engineering report, the Administrator will determine if the engine shall be used as an emission-data engine.

(B) If the Administrator determines that the test data developed under paragraph (b)(3)(iii)(A) of this section would cause the emission-data engine to fail due to excessive 125-hour emission values or by the application of the appropriate deterioration factor, then the following procedure shall be observed:

(*1*) The manufacturer may request a retest. Before the retest, those engine parameters which the Administrator has not determined to be subject to adjustment for certification testing in accordance with § 86.085–22(e)(1) may be readjusted to the manufacturer's specifications, if these adjustments were made incorrectly prior to the first test. The Administrator may adjust or cause to be adjusted any parameter which the Administrator has determined to be subject to adjustment in accordance with § 86.085–22(e)(3)(i). However, if the idle speed parameter is one which the Administrator has determined to be subject to adjustment, the Administrator shall not adjust it to a setting which causes a higher engine idle speed than would have been possible within the physically adjustable range of the idle speed parameter on the engine before it accumulated any dynamometer service, all other parameters being identically adjusted for the purpose of the comparison. Other maintenance or repairs may be performed in accordance with § 86.087–25. All work on the vehicle shall be done at such location and under such conditions as the Administrator may prescribe.

(*2*) The engine will be retested by the Administrator and the results of this test shall comprise the official data for the emission-data engine.

(iv) If sufficient durability data are not available at the time of any emission test conducted under paragraph (b)(2) of this section to enable the Administrator to determine whether an emission-data engine would fail, the manufacturer may request a retest in accordance with the provisions of paragraphs (b)(3)(iii)(B) (*1*) and (*2*) of this section. If the manufacturer does not promptly make such request, he shall be deemed to have waived the right to a retest. A request for retest must be made before the manufacturer removes the engine from the test premises.

(c) (1) Paragraph (c) of this section applies to gasoline-fueled heavy-duty vehicles.

(2) The Administrator may require that any one or more of the evaporative emission family-system combinations included in the manufacturer's statement(s) of compliance be installed on an appropriate vehicle and such vehicle be submitted to him, at such place or places as he may designate, for the purpose of conducting emissions tests. The Administrator may specify that he will conduct such testing at the manufacturer's facility, in which case instrumentation and equipment specified by the Administrator shall be made available by the manufacturer for test operations. Any testing conducted at a manufacturer's facility pursuant to this paragraph shall be scheduled by the manufacturer as promptly as possible.

(3)(i) Whenever the Administrator conducts a test on an evaporative emission family-system combination the results of that test, unless subsequently invalidated by the Administrator, shall comprise the official data for the

evaporative emission family-system combination and the manufacturer's data, analyses, etc., shall not be used in determining compliance with emission standards.

(ii) Whenever the Administrator does not conduct a test on an evaporative emission family-system combination, the manufacturer's test data will be accepted as the official data: *Provided,* that if the Administrator makes a determination based on testing under paragraph (c)(2) of this section, that there is a lack of correlation between the manufacturer's test equipment and the test equipment used by the Administrator, no manufacturer's test data will be accepted for purposes of certification until the reasons for the lack of correlation are determined and the validity of the data is established by the manufacturer, *and further provided,* that if the Administrator has reasonable basis to believe that any test data, analyses, or other information submitted by the manufacturer is not accurate or has been obtained in violation of any provision of this part, the Administrator may refuse to accept those data, analyses, etc., as the official data pending retesting or submission or further information.

18. A new § 86.090–30 is proposed to be added to Subpart A, to read as follows:

§ 86.090–30 Certification.

(a)(1)(i) If, after a review of the test reports and data submitted by the maufactuer, data derived from any inspection carried out under § 86.078–7(c), and any other pertinent data or information, the Administrator determines that a test vehicle(s) (or test engine(s)) meet(s) the requirements of the Act and of this subpart, he will issue a certificate of conformity with respect to such vehicle(s) (or engine(s)) except in cases covered by paragraphs (a)(1)(ii) and (c) of this section.

(ii) *Gasoline-fueled heavy-duty vehicles.* If, after a review of the statement(s) of compliance submitted by the manufacturer under § 86.090–23(b)(4) and any other pertinent data or information, the Administrator determines that the requirements of the Act and this subpart have been met, he will issue one certificate of conformity per manufacturer with respect to the evaporative emission family(s) covered by such statement(s), except in cases covered by paragraph (c) of this section.

(2) Such certificate will be issued for such period not to exceed one model year as the Administrator may determine and upon such terms as he may deem necessary or appropriate to assure that any new motor vehicle (or new motor vehicle engine) covered by the certificate will meet the requirements of the Act and of this part.

(3)(i) One such certificate will be issued for each engine family. For gasoline-fueled light-duty vehicles and light-duty trucks, one such certificate will be issued for each engine family-evaporative emission family combination.

(A) *Light-Duty Vehicles.* Each certificate will certify compliance with no more than one set of standards (or one family particulate emission limit, as appropriate).

(B) *Light-Duty Trucks.* Each certificate will certify compliance with no more than one set of standards (or one family particulate emission limit, as appropriate), except for low-altitude standards and high-altitude standards. The certificate shall state that it covers vehicles sold or delivered to an ultimate purchaser for principal use at a designated high-altitude location only if the vehicle conforms in all material respects to the design specifications that apply to those vehicles described in the application for certification at high altitude.

(ii) For gasoline-fueled heavy-duty vehicles, one such certificate will be issued for each manufacturer and will certify compliance for those vehicles previously identified in that manufacturer's statement(s) of compliance as required in § 86.090–23(b)(4) (i) and (ii).

(iii) For diesel ligh-duty vehicles and light-duty trucks or heavy-duty diesel engines included in the appropriate particulate averaging program, the manufacturer may at any time during production elect to change the level of any family particulate emission limit by demonstrating compliance with the new limit as described in § 86.090–28(a)(6), § 86.090–28(b)(7) or § 86.090–28(c)(5). New certificates issued under this paragraph will be applicable only for vehicles or engines produced subsequent to the date of issuance.

(4)(i) The adjustment or modification of any light-duty truck in accordance with instructions provided by the manufacturer for the altitude where the vehicle is principally used will not be considered a violation of section 203(a)(3) of the Clean Air Act.

(ii) A violation of section 203(a)(1) of the Clean Air Act occurs when a manufacturer sells or delivers to an ultimate purchaser any light-duty vehicle or light-duty truck, subject to the regulations under the Act, under any of the conditions specified in the remainder of this paragraph.

(A) When a light-duty vehicle or light-duty truck is not configured to meet high-altitude requirements:

(*1*) At a designated high-altitude location, unless such manufacturer has reason to believe that such vehicle will not be sold to an ultimate purchaser for principal use at a designated high-altitude location; or

(*2*) At a location other than a designated high-altitude location, when such manufacturer has reason to believe that such motor vehicle will be sold to an ultimate purchaser for principal use at a designated high-altitude location.

(B) When a light-duty vehicle is not configured to meet low-altitude requirements, as provided in § 86.087–8(i):

(*1*) At a designated low-altitude location, unless such maufacturer has reason to believe that such vehicle will not be sold to an utimate purchaser for principal use at a designated low-altitude location; or

(*2*) At a location other that a designated low-altitude location, when such manufacturer has reason to believe that such motor vehicle will be sold to an ultimate purchaser for principal use at a designated low-altitude location.

(iii) A manufacturer shall be deemed to have reason to believe that a light-duty vehicle that has been exempted from compliance with emission standards at high-altitude, or a light-duty truck which is not configured to meet high-altitude requirements, will not be sold to an ultimate purchaser for principal use at a designated high-altitude location if the manufacturer has informed its dealers and field reprentatives about the terms of these high-altitude regulations, has not caused the improper sale itself, and has taken reasonable action which shall include, but not be limited to, either paragraphs (a)(4)(iii) (A) or (B), and paragraph (a)(4)(iii)(C) of this section:

(A) Requiring dealers in designated high-altitude locations to submit written statements to the manufacturer signed by the ultimate purchaser that a vehicle which is not configured to meet high-altitude requirements will not be used principally at a designated high-altitude location; requiring dealers in counties contiguous to designated high-altitude locations to submit written statements to the manufacturer, signed by the ultimate purchaser who represents to the dealer in the normal course of business that he or she resides in a designated high-altitude location, that a vehicle which is not configured to meet high-altitude requirements will not be used principally at a designated high-altitude location; and for each sale or

delivery of fleets of ten or more such vehicles in a high-altitude location or in counties contiguous to high-altitude locations, requiring either the selling dealer or the delivering dealer to submit written statements to the manufacturer, signed by the ultimate purchaser who represents to the dealer in the normal course of business that he or she resides in a designated high-altitude location, that a vehicle which is not configured to meet high-altitude requirements will not be used principally at a designated high-altitude location. In addition, the manufacturer will make available to EPA, upon reasonable written request (but not more frequently than quarterly, unless EPA has demonstrated that it has substantial reason to believe that an improperly configured vehicle has been sold), sales, warranty, or other information pertaining to sales of vehicles by the dealers described above maintained by the manufacturer in the normal course of business relating to the altitude configuration of vehicles and the locations of ultimate purchasers; or

(B) Implementing a system which monitors factory orders of low-altitude vehicles by high-altitude dealers, or through other means, identifies dealers that may have sold or delivered a vehicle not configured to meet the high-altitude requirements to an ultimate purchaser for principal use at a designated high-altitude location; and making such information available to EPA upon reasonable written request (but not more frequently than quarterly, unless EPA has demonstrated that it has substantial reason to believe that an improperly configured vehicle has been sold); and

(C) Within a reasonable time after receiving written notice from EPA or a State or local government agency that a dealer may have improperly sold or delivered a vehicle not configured to meet the high-altitude requirements to an ultimate purchaser residing in a designated high-altitude location, or based on information obtained pursuant to paragraph (a)(4)(iii) of this section that a dealer may have improperly sold or delivered a significant number of such vehicles to ultimate purchasers so residing, reminding the dealer in writing of the requirements of these regulations, and, where appropriate, warning the dealer that sale by the dealer of vehicles not configured to meet high-altitude requirements may be contrary to the terms of its franchise agreement with the manufacturer and the dealer certification requirements of § 85.2108 of this chapter.

(iv) A manufacturer shall be deemed to have reason to believe that a light-duty vehicle which has been exempted from compliance with emission standards at low-altitude, as provided in § 86.087–8(i), will not be sold to an ultimate purchaser for principal use at a designated low-altitude location if the manufacturer has informed its dealers and field representatives about the terms of these high-altitude regulations, has not caused the improper sale itself, and has taken reasonable action which shall include, but not be limited to, either paragraphs (a)(4)(iv) (A) or (B), and paragraph (a)(4)(iv)(C) of this section:

(A) Requiring dealers in designated low-altitude locations to submit written statements to the manufacturer signed by the ultimate purchaser that a vehicle which is not configured to meet low-altitude requirements will not be used principally at a designated low-altitude location; requiring dealers in counties contiguous to designated low-altitude locations to submit written statements to the manufacturer, signed by the ultimate purchaser who represents to the dealer in the normal course of business that he or she resides in a designated low-altitude location, that a vehicle which is not configured to meet low-altitude requirements will not be used principally at a designated low-altitude location; and for each sale or delivery of fleets of ten or more such vehicles in a low-altitude location or in counties contiguous to low-altitude locations, requiring either the selling dealer or the delivering dealer to submit written statements to the manufacturer, signed by the ultimate purchaser who represents to the dealer in the normal course of business that he or he resides in a designated low-altitude location, that a vehicle which is not configured to meet low-altitude requirements will not be used principally at a designated high-altitude location. In addition, the manufacturer will make available to EPA, upon reasonable written request (but not more frequently than quarterly, unless EPA has demonstrated that it has substantial reason to believe that an improperly configured vehicle has been sold), sales, warranty, or other information pertaining to sales of vehicles by the dealers described above maintained by the manufacturer in the normal course of business relating to the altitude configuration of vehicles and the locations of ultimate purchasers; or

(B) Implementing a system which monitors factory orders of high-altitude vehicles by low-altitude dealers, or through other means, identifies dealers that may have sold or delivered a vehicle not configured to met the low-altitude requirements to an ultimate purchaser for principal use at a designated low-altitude location; and making such information available to EPA upon reasonable written request (but not more frequently than quarterly, unless EPA has demonstrated that it has substantial reason to believe that an improperly configured vehicle has been sold); and

(C) Within a reasonable time after receiving written notice from EPA or a state or local government agency that a dealer may have improperly sold or delivered a vehicle not configured to meet the low-altitude requirements to an ultimate purchaser residing in a designated low-altitude location, or based on information obtained pursuant to paragraph (a)(4)(iv) of this section that a dealer may have improperly sold or delivered a significant number of such vehicles to ultimate purchasers so residing, reminding the dealer in writing of the requirements of these regulations, and, where appropriate, warning the dealer that sale by the dealer of vehicles not configured to meet low-altitude requirements may be contrary to the terms of its franchise agreement with the manufacturer and the dealer certification requirements of § 85.2108 of this chapter.

(5)(i) For the purpose of paragraph (a) of this section, a "designated high-altitude location" is any county which has substantially all of its area located above 1,219 meters (4,000 feet) and:

(A) Requested an extension past the attainment date of December 31, 1982, for compliance with either the National Ambient Air Quality Standards for carbon monoxide or ozone, as indicated in Part 52 (Approval and Promulgation of Implementation Plans) of this title; or

(B) Is in the same state as a county designated as a high-altitude location according to paragraph (a)(5)(i)(A) of this section.

(ii) The designated high-altitude locations defined in paragraph (a)(5)(i) of this section are listed below:

Designated High-Altitude Locations (counties) for Light-Duty Trucks

State of Colorado

Adams	Eagle
Alamosa	Elbert
Arapahoe	El Paso
Archuleta	Fremont
Boulder	Garfield
Chaffee	Gilpin
Cheyenne	Grand
Clear Creek	Gunnison
Conejos	Hinsdale
Costilla	Huerfano
Crowley	Jackson
Custer	Jefferson
Delta	Kit Carson
Denver	Lake
Dolores	La Plata
Douglas	Larimer

Las Animas	Pueblo
Lincoln	Rio Blanco
Mesa	Rio Grande
Mineral	Routt
Moffat	Saguache
Montezuma	San Juan
Montrose	San Miguel
Morgan	Summit
Otero	Teller
Ouray	Washington
Park	Weld
Pitkin	

State of Nevada

Carson City	Lyon
Douglas	Mineral
Elko	Nye
Esmeralda	Pershing
Eureka	Storey
Humboldt	Washoe
Lander	White Pine
Lincoln	

State of New Mexico

Bernalillo	Otero
Catron	Rio Arriba
Colfax	Roosevelt
Curry	Sandoval
De Baca	San Juan
Grant	San Miguel
Guadalupe	Santa Fe
Harding	Sierra
Hidalgo	Socorro
Lincoln	Taos
Los Alamos	Torrance
Luna	Union
McKinley	Valencia
Mora	

State of Utah

Beaver	Morgan
Box Elder	Piute
Cache	Rich
Carbon	Salt Lake
Daggett	San Juan
Davis	Sanpete
Duchesne	Sevier
Emery	Summit
Garfield	Tooele
Grand	Uintah
Iron	Utah
Juab	Wasatch
Kane	Wayne
Millard	Weber

(iii) For the purpose of paragraph (a) of this section, a "designated low-altitude location" is any county which has substantially all of its area located below 1,219 meters (4,000 feet).

(iv) The designated low-altitude locations so defined include all counties in the United States which are not listed in either paragraph (a)(5)(ii) of this section or in the list below:

State of Arizona

Apache	Navajo
Cochise	Yavapai
Coconino	

State of Idaho

Bannock	Franklin
Bear Lake	Fremont
Bingham	Jefferson
Blaine	Lemhi
Bonneville	Madison
Butte	Minidoka
Camas	Oneida
Caribou	Power
Cassia	Teton
Clark	Valley
Custer	

State of Montana

Beaverhead	Meagher
Deer Lodge	Park
Gallatin	Powell
Jefferson	Silver Bow
Judith Basin	Wheatland
Madison	

State of Nebraska

Banner	Kimball
Cheyenne	Sioux

State of Oregon

Harney	Lake
Klamath	

Sate of Texas

Jeff Davis	Parmer
Hudspeth	

State of Wyoming

Albany	Natrona
Campbell	Niobrara
Carbon	Park
Converse	Platte
Fremont	Sublette
Goshen	Sweetwater
Hot Springs	Teton
Johnson	Uinta
Laramie	Washakie
Lincoln	Weston

(6) Catalyst-equipped vehicles, otherwise covered by a certificate, which are driven outside the United States, Canada, and Mexico will be presumed to have been operated on leaded gasoline resulting in deactivation of the catalysts. If these vehicles are imported or offered for importation without retrofit of the catalyst, they will be considered not to be within the coverage of the certificate unless included in a catalyst control program operated by a manufacturer or a United States Government agency and approved by the Administrator.

(7) For incomplete light-duty trucks, a certificate covers only those new motor vehicles which, when completed by having the primary load-carrying device or container attached, conform to the maximum curb weight and frontal area limitations described in the application for certification as required in § 86.090–21(d).

(8) For heavy-duty engines, a certificate covers only those new motor vehicle engines installed in heavy-duty vehicles which conform to the minimum gross vehicles weight rating, curb weight, or frontal area limitations for heavy-duty vehicles described in § 86.082–2.

(9) For incomplete gasoline-fueled heavy-duty vehicles a certificate covers only those new motor vehicles which, when completed, conform to the nominal maximum fuel tank capacity limitations as described in the application for certification as required in § 86.909–21(e).

(10) For diesel light-duty vehicle families and diesel light-duty truck families or heavy-duty diesel engine families which participate in a particulate averaging program, the manufacturer's weighted particulate emission level of the particulate emission limits of all engine families in a participating class or classes shall not exceed the applicable diesel particulate standard, or composite standard, as appropriate, at the end of the model year, as determined in accordance with 40 CFR Part 86. The certificate shall be void *ab initio* for those vehicles causing any exceeding of the particulate standard.

(b)(1) The Administrator will determine whether a vehicle (or engine) covered by the application complies with applicable standards (or family particulate emission limit, as appropriate) by observing the following relationships:

(i) *Light-duty vehicles.* (A) The durability-data vehicle(s) selected under § 86.087–24(c)(1)(i) shall represent all vehicles of the same engine-system combination.

(B) The emission-data vehicle(s) selected under § 86.87–24(b)(1) (ii) through (iv) shall represent all vehicles of the same engine-system combination as applicable.

(C) The emission-data vehicle(s) selected under § 86.087–24(b)(1)(vii) (A) and (B) shall represent all vehicles of the same evaporative control system within the evaporative family.

(ii) *Light-duty trucks.*

(A) The emission-data vehicle(s) selected under § 86.085–24(b)(1)(ii), shall represent all vehicles of the same engine-system combination as applicable.

(B) The emission-data vehicle(s) selected under § 86.087–24(b)(1)(vii) (A) and (B) shall represent all vehicles of the same evaporative control system within the evaporative family.

(C) The emission-data vehicle(s) selected under § 86.087–24(b)(1)(v) shall represent all vehicles of the same engine-system combination as applicable.

(D) The emission-data vehicle(s) selected under § 86.087–24(b)(1)(viii) shall represent all vehicles of the same evaporative control system within the evaporative emission family, as applicable.

(iii) *Heavy-duty engines.* (A) A gasoline-fueled emission-data test engine selected under § 86.087–24(b)(2)(iv) shall represent all engines in the same family of the same engine displacement-exhaust emission control system combination.

(B) A gasoline-fueled emission-data test engine selected under § 86.087–

24(b)(2)(iii) shall represent all engines in the same engine family of the same engine displacement-exhaust emission control system combination.

(C) A diesel emission-data test engine selected under § 86.087–24(b)(3)(ii) shall represent all engines in the same engine-system combination.

(D) A diesel emission-data test engine selected under § 86.087–24(b)(3)(iii) shall represent all engines of that emission control system at the rated fuel delivery of the test engine.

(iv) *Gasoline-fueled heavy-duty vehicles.* A statement of compliance submitted under § 86.090–23(b)(4) (i) or (ii) shall represent all vehicles in the same evaporative emission family-evaporative emission control system combination.

(2) The Administrator will proceed as in paragraph (a) of this section with respect to the vehicles (or engines) belonging to an engine family or engine family-evaporative emission family combination (as applicable), all of which comply with all applicable standards (or the family emission limit, as appropriate).

(3) If, after a review of the test reports and data submitted by the manufacturer, data derived from any additional testing conducted pursuant to § 86.090–29, data or information derived from any inspection carried out under § 86.078–7(c) or any other pertinent data or information, the Administrator determines that one or more test vehicles (or test engines) of the certification test fleet do not meet applicable standards (or family particulate emission limits, as appropriate), he will notify the manufacturer in writing, setting forth the basis for his determination. Within 30 days following receipt of the notification, the manufacturer may request a hearing on the Administrator's determination. The request shall be in writing, signing by an authorized representative of the manufacturer and shall include a statement specifying the manufacturer's objections to the Administrator's determination and data in support of such objections. If, after a review of the request and supporting data, the Administrator finds that the request raises a substantial factural issue, he shall provide the manufacturer a hearing in accordance with § 86.978–6 with respect to such issue.

(4) For light-duty vehicles and light-duty trucks the manufacturer may, at its option, proceed with any of the following alternatives with respect to an emission-data vehicle determined not in compliance with all applicable standards (or the family particulate emission limit, as appropriate) for which it was tested:

(i) Request a hearing under § 86.078–6; or

(ii) Remove the vehicle configuration (or evaporative vehicle configuration, as applicable) which failed, from his application.

(A) If the failed vehicle was tested for compliance with exhaust emission standards (or the family particulate emission limit, as appropriate) only: The Administrator may select, in place of the failed vehicle, in accordance with the selection criteria employed in selecting the failed vehicle, a new emission-data vehicle to be tested for exhaust emission compliance only.

(B) If the failed vehicle was tested for compliance with both exhaust and evaporative emission standards: The Administrator may select, in place of the failed vehicle, in accordance with the selection criteria employed in selecting the failed vehicle, a new emission-data vehicle which will be tested for compliance with both exhaust and evaporative emission standards. If one vehicle cannot be selected in accordance with the selection criteria employed in selecting the failed vehicle, then two vehicles may be selected (*i.e.*, one vehicle to satisfy the exhaust emission vehicle selection criteria and one vehicle to satisfy the evaporative emission vehicle selection criteria). The vehicle selected to satisfy the exhaust emission vehicle selection criteria will be tested for compliance with exhaust emission standards only. The vehicle selected to satisfy the evaporative emission vehicle selection criteria will be tested for compliance with both exhaust and evaporative emission standards; or

(iii) Remove the vehicle configuration (or evaporative vehicle configuration, as applicable) which failed from the application and add a vehicle configuration(s) (or evaporative vehicle configuration(s), as applicable) not previously, listed. The administrator may require, if applicable that the failed vehicle be modified to the new engine code (or evaporative emission code, as applicable) and demonstrate by testing that it meets applicable standards (or the family particulate emission limit, as appropriate) for which it was originally tested. In addition, the Administrator may select, in accordance with the vehicle selection criteria given in § 86.087–24(b), a new emission-data vehicle or vehicles. The vehicles selected to satisfy the exhaust emission vehicle selection criteria will be tested for compliance with exhaust emission standards (or the family particulate emission limit, as appropriate) only. The vehicles selected to satisfy the evaporative emission vehicle selection criteria will be tested for compliance with both exhaust and evaporative emission standards (or the family particulate emission limit, as appropriate); or

(iv) Correct a component or system malfunction and show that with a correctly functioning system or component the failed vehicle meets applicable standards (or the family particulate emission limit, as appropriate) for which it was originally tested. The Administrator may require a new emission-data vehicle, of identical vehicle configuration (or evaporative vehicle configuration, as applicable) to the failed vehicle, to be operated and tested for compliance with the applicable standards (or the family particulate emission limit, as appropriate) for which the failed vehicle was originally tested.

(5) For heavy-duty engines the manufacturer may, at his option, proceed with any of the following alternatives with respect to any engine family represented by a test engine(s) determined not in compliance with applicable standards:

(i) Request a hearing under § 86.078–6; or

(ii) Delete from the application for certification the engines represented by the failing test engine. (Engines so deleted may be included in a later request for certification under § 86.079–32). The Administrator may then select in place of each failing engine an alternate engine chosen in accordance with selection criteria employed in selecting the engine that failed; or

(iii) Modify the test engine and demonstrate by testing that it meets applicable standards (or family particulate emission limit, as appropriate). Another engine which is in all material respects the same as the first engine, as modified, may then be operated and tested in accordance with applicable test procedures.

(6) If the manufacturer does not request a hearing or present the required data under paragraphs (b) (4) or (5) of this section (as applicable), the Administrator will deny certification.

(c)(1) Notwithstanding the fact that any certification vehicle(s) (or engine(s)) may comply with other provisions of this subpart, the Administrator may withhold or deny the issuance of a certificate of conformity (or suspend or revoke any such certificate which has been issued) with respect to any such vehicle(s) (or engine(s)) if:

(i) The manufacturer submits false or incomplete information in his application for certification thereof;

(ii) The manufacturer renders inaccurate any test data which he submits pertaining thereto or otherwise circumvents the intent of the Act, or of this part with respect to such vehicle (or engine);

(iii) Any EPA Enforcement Officer is denied access on the terms specified in § 86.078–7(c) to any facility or portion thereof which contains any of the following:

(A) The vehicle (or engine);

(B) Any components used or considered for use in its modification or buildup into a certification vehicle (or certification engine);

(C) Any production vehicle (or production engine) which is or will be claimed by the manufacturer to be covered by the certificate;

(D) Any step in the construction of a vehicle (or engine) described in paragraph (c)(iii)(C) of this section;

(E) Any records, documents, reports, or histories required by this part to be kept concerning any of the above.

(iv) Any EPA Enforcement Officer is denied "reasonable assistance" (as defined in § 86.078–7(c)) in examining any of the items listed in paragraph (c)(1)(iii) of this section.

(2) The sanctions of withholding, denying, revoking, or suspending of a certificate may be imposed for the reasons in paragraphs (c)(1) (i), (ii), (iii), or (iv) of this section only when the infraction is substantial.

(3) In any case in which a manufacturer knowingly submits false or inaccurate information of knowingly renders inaccurate or invalid any test data or commits any other fraudulent acts and such acts contribute substantially to the Administrator's decision to issue a certificate of conformity, the Administrator may deem such certificate void *ab initio*.

(4) In any case in which certification of a vehicle (or engine) is proposed to be withheld, denied, revoked, or suspended under paragraphs (c)(1)(iii) or (c)(1)(iv) of this section, and in which the Administrator has presented to the manufacturer involved reasonable evidence that a violation of § 86.078–7(c) in fact occurred, the manufacturer, if he wishes to contend that, even though the violation occurred, the vehicle (or engine) in question was not involved in the violation to a degree that would warrant withholding denial, revocation, or suspension of certification under either paragraph (c)(1)(iii) or (c)(1)(iv) of this section, shall have the burden of establishing that contention to the satisfaction of the Administrator.

(5) Any revocation or suspension of certification under paragraph (c)(1) of this section shall:

(i) Be made only after the manufacturer concerned has been offered an opportunity for a hearing conducted in accordance with § 86.078–6 hereof.

(ii) Extend no further than to forbid the introduction into commerce of vehicles (or engines) previously covered by the certification which are still in the hands of the manfacturer, except in cases of such fraud or other misconduct as makes the certification invalid *ab initio*.

(6) The manufacturer may request in the form and manner specified in paragraph (b)(3) of this section that any determination made by the Administrator under paragraph (c)(1) of this section to withhold or deny certification be reviewed in a hearing conducted in accordance with § 86.078–6. If the Administrator finds, after a review of the request and supporting data, that the request raises a substantial factual issue, he will grant the request with respect to such issue.

(d)(1) *For light-duty vehicles, light-duty trucks, and heavy-duty engines.* Notwithstanding the fact that any vehicle or engine configuration or engine family may be covered by a valid outstanding certificate of conformity, the Administrator may suspend such outstanding certificate of conformity in whole or in part with respect to such vehicle or engine configuration or engine family if:

(i) The manufacturer refuses to comply with the provisions of a test order issued by the Administrator pursuant to § 86.603 or § 86.1003; or

(ii) The manufacturer refuses to comply with any of the requirements of § 86.603 or § 86.1003; or

(iii) The manufacturer submits false or incomplete information in any report or information provided pursuant to the requirements of § 86.609 or § 86.1009; or

(iv) The manufacturer renders inaccurate any test data which he submits pursuant to § 86.609 or in § 86.1009; or

(v) Any EPA Enforcement Officer is denied access to a facility on the terms specified in § 86.606 or in § 86.1006 of this part and in a warrant or court order presented to the manufacturer or the party in charge of a facility in question; or

(vi) EPA Enforcement Officers are unable to conduct activities related to entry and access as authorized in § 86.606 or § 86.1006 of this part because a manufacturer has located a facility in a foreign jurisdiction where local law prohibits those activities; or

(vii) Any EPA Enforcement Officer is denied the opportunity on the terms specified in § 86.606 of § 86.1006 to:

(A) Monitor vehicle selection pursuant to § 86.607 or § 86.1007, or

(B) Select vehicles for testing pursuant to § 86.607 or § 86.1007, or

(C) Monitor vehicle testing perform to satisfy any of the requirements of this part; or

(viii) Any EPA Enforcement Officer is denied "reasonable assistance" as defined in § 86.606 or § 86.1006 in examining any of item listed in that section; or

(ix) The manufacturer refuses to comply or in fact does not comply with the requirements of § 86.604(a), § 86.605, and § 86.607, § 86.608, § 86.0610, or § 86.611, or of § 86.1004(a), § 86.1005, § 86.1007, § 86.1008, § 86.1010, § 86.1011, or § 86.1013.

(2) The sanction of suspending a certificate may not be imposed for the reasons in paragraphs (d)(1) (i), (ii), or (viii) of this section where such refusal is caused by conditions and circumstances outside the control of the manufacturer which renders it impossible to comply with those requirements. Such conditions and circumstances shall include, but not be limited to, any uncontrollable factors which results in the temporary unavailability of equipment and personnel needed to conduct the required tests, such as equipment breakdown or failure or illness of personnel, but shall not include failure of the manufacturer to adequately plan for and provide the equipment and personnel needed to conduct the tests. The manufacturer will bear the burden of establishing the presence of the conditions and circumstances required by this paragraph.

(3) The sanctions of suspending a certificate may be imposed for the reasons in paragraphs (d)(1) (iii), (iv), (v), (vii) or (viii) of this section only when the infraction is substantial.

(4) In any case in which a manufacturer knowingly submitted false or inaccurate information or knowingly rendered inaccurate any test data or committed any other fraudulent acts, and such acts contributed substantially to the Administrator's original decision not to suspend or revoke a certificate of conformity in whole or in part, the Administrator may deem such certificate void from the date of such fraudulent act.

(5) In any case in which certification of a vehicle is proposed to be suspended under paragraph (d)(1) (v), (vi), or (vii) of this section, and in which the Administrator has presented to the

manufacturer involved reasonable evidence that a violation of § 86.606 or § 86.1006 in fact occurred, the manufacturer, if he wishes to contend that even though the violation occurred, the vehicle configuration or engine family in question was not involved in the violation to the degree that would warrant suspension of certification under either paragaraph (d)(1) (v), (vi), or (vii) of this section, shall have the burden of establishing that contention to the satisfaction of the Administrator.

(6) Any suspension of certification under paragraph (d)(1) of this section shall:

(i) Be made only after the manufacturer concerned has been offered an opportunity for a hearing conducted in accordance with § 86.613 or § 86.1014 hereof, and

(ii) Not apply to vehicles or engines no longer in the hands of the manufacutrer.

(7) Any voiding of a certificate of conformity under paragraph (d)(4) of this section shall be made only after the manufacturer concerned has been afforded an opportunity for a hearing conducted in accordance with § 86.1014 (light-duty trucks and heavy-duty engines only).

19. A new § 86.090–35 is proposed to be added to Subpart A, to read as follows:

§ 86.090–35 Labeling.

(a) The manufacturer of any motor vehicle (or motor vehicle engine) subject to the applicable emission standards (and family particulate emission limits, as appropriate) of this subpart, shall, at the time of manufacture, affix a permanent legible label, of the type and in the manner described below, containing the information hereinafter provided, to all production models of such vehicles (or engines) available for sale to the public and covered by a certificate of conformity under § 86.090–30(a).

(1) *Light-duty vehicles.* (i) A permanent, legible label shall be affixed in a readily visible position in the engine compartment.

(ii) The label shall be affixed by the vehicle manufacturer who has been issued the certificate of conformity for such vehicle, in such a manner that it cannot be removed without destroying or defacing the label. The label shall not be affixed to any equipment which is easily detached from such vehicle.

(iii) The label shall contain the following information lettered in the English language in block letters and numerals, which shall be of a color that contrasts with the background of the label:

(A) The lable heading: Vehicle Emission Control Information;

(B) Full corporate name and trademark of manufacturer;

(C) Engine displacement (in cubic inches), engine family identification, and evaporative family identification;

(D) Engine tune-up specifications and adjustments, as recommended by the manufacturer in accordance with the applicable emission standards (or family particulate emission limit, as applicable), including but not limited to idle speed(s), ignition timing, the idle air-fuel mixture setting procedure and value (*e.g.*, idle CO, idle air-fuel ratio, idle speed drop), high idle speed, initial injection timing, and valve lash (as applicable), as well as other parameters deemed necessary by the manufacturer. These specifications should indicate the proper transmission position during tune-up and what accessories (*e.g.*, air conditioner), if any, should be in operation;

(E) An unconditional statement of compliance with the appropriate model year U.S. Environmental Protection Agency regulations which apply to light-duty vehicles;

(F) For vehicles which are part of the diesel particulate averaging program, the family particulate emission limit to which the vehicle is certified;

(G) For vehicles that have been exempted from compliance with the emission standards at high altitude, as specified in § 86.087–8(h):

(*1*) A highlighted statement (*e.g.*, underscored or boldface letters) that the vehicle is certified to applicable emission standards at low altitude only,

(*2*) A statement that the vehicle's unsatisfactory performance under high-altitude conditions makes it unsuitable for principal use at high altitude, and

(*3*) A statement that the emission performance warranty provisions of 40 CFR Part 85, Subpart V do not apply when the vehicle is tested at high altitude; and

(H) For vehicles that have been exempted from compliance with the emission standards at low altitude, as specified in § 86.087–8(i):

(*1*) A highlighted statement (*e.g.*, underscored or boldface letters) that the vehicle is certified to applicable emission standards at high altitude only, and

(*2*) A statement that the emission performance warranty provisions of 40 CFR Part 85, Subpart V do not apply when the vehicle is tested at low altitude.

(2) *Light-duty trucks.* (i) A legible, permanent label shall be affixed in a readily visible position in the engine compartment.

(ii) The label shall be affixed by the vehicle manufacturer who has been issued the certificate of conformity for such vehicle, in such a manner that it cannot be removed without destroying or defacing the label. The label shall not be affixed to any equipment which is easily detached from such vehicle.

(iii) The lable shall contain the following information lettered in the English language in block letters and numerals, which shall be of a color that contrasts with the background of the label.

(A) The label heading: Important Vehicle Information;

(B) Full corporate name and trademark of manufacturer;

(C) Engine displacement (in cubic inches) and engine family identification;

(D) Engine tune-up specifications and adjustments, as recommended by the manufacturer in accordance with the applicable emission standards (or family particulate limit, as appropriate), including but not limited to idle speed(s), ignition timing, the idle air-fuel mixture setting procedure and value (*e.g.*, idle CO, idle air-fuel ratio, idle speed drop), high idle speed, initial injection timing, and valve lash (as applicable), as well as other parameters deemed necessary by the manufacturer. These specifications should indicate the proper transmission position during tune-up and what accessories (*e.g.*, air conditioner), if any, should be in operation. If adjustments or modifications to the vehicle are necessary to insure compliance with the emission standards (or family particulate limit, as appropriate) at either high or low altitude, the manufacturer shall either include the instructions for such adjustments on the label, or indicate on the label where instructions for such adjustments may be found. The label shall indicate whether the engine tune-up or adjustment specifications are applicable to high altitude, low altitude or both;

(E) The prominent statement: "This vehicle conforms to U.S. EPA regulations applicable to 19— Model Year New Light-Duty Trucks."

(F) If the manufacturer is provided an alternate useful-life period under the provisions of § 86.090–21(f), the prominent statement; "This vehicle has been certified to meet U.S. EPA standards for a useful-life period of ——— years or ——— miles of operation, whichever occurs first. This vehicle's actual life may vary depending on its service application." The manufacturer may alter this statement only to express the assigned alternate

useful life in terms other than years of miles (*e.g.*, hours, or miles only);

(G) A statement, if applicable, that the adjustments or modifications indicated on the label are necessary to ensure emission control compliance at the altitude specified;

(H) A statement, if applicable, that the high-altitude vehicle was designated or modified for principal use at high altitude. This statement must be affixed by the manufacturer at the time of assembly or by any dealer who performs the high-altitude modification or adjustment prior to sale to an ultimate purchaser;

(I) For vehicles that have been exempted from compliance with the high-altitude emission standards, as specified in § 86.087–9(g)(2):

(*1*) A highlighted statement (*e.g.*, underscored or boldface letters) that the vehicle is certified to applicable emission standards at low altitude only,

(*2*) A statement that the vehicle's unsatisfactory performance under high-altitude conditions makes it unsuitable for principal use at high altitude, and

(*3*) A statement that the emission performance warranty provisions of 40 CFR Part 85, Subpart I do not apply when the vehicle is tested at high altitude; and,

(J) For vehicles which are part of the diesel particulate averaging program, the family particulate emission limit to which the vehicle is certified.

(3) *Heavy-duty engines.* (i) A permanent legible label shall be affixed to the engine in a position in which it will be readily visible after installation in the vehicle.

(ii) The label shall be attached to an engine part necessary for normal engine operation and not normally requiring replacement during engine life.

(iii) The label shall contain the following information lettered in the English language in block letters and numerals which shall be of a color that contrasts with the background of the label:

(A) The label heading: Important Engine Information;

(B) Full corporate name and trademark of manufacturer;

(C) Engine displacement (in cubic inches) and engine family and model designations;

(D) Date of engine manufacture (month and year). The manufacturer may, in lieu of including the date of manufacture on the engine label, maintain a record of the engine manufacture dates. The manufacturer shall provide the dates of manufacture records to the Administrator upon request;

(E) Engine specifications and adjustments as recommended by the manufacturer. These specifications should indicate the proper transmission position during tuneup and what accessories (*e.g.*, air conditioner), if any, should be in operation;

(F) For gasoline-fueled engines the label should include the idle speed, ignition timing, and the idle air-fuel mixture setting procedure and value (*e.g.*, idle CO, idle air-fuel ratio, idle speed drop), and valve lash;

(G) For diesel engines the label should include the advertised hp at rpm, fuel rate at advertised hp in mm^3/stroke, valve lash, initial injection timing, and idle speed;

(H) The prominent statement: "This engine conforms to U.S. EPA regulations applicable to 19— Model Year New Heavy-Duty Engines."

(I) If the manufacturer is provided with an alternate useful-life period under the provisions of § 86.090–21(f), the prominent statement: "This engine has been certified to meet U.S. EPA standards for a useful-life period of ——— miles or ——— hours of operation, whichever occurs first. This engine's actual life may vary depending on its service application." The manufacturer may alter this statement only to express the assigned alternate useful life in terms other than miles or hours (*e.g.*, years, or hours only);

(J) *For diesel engines.* The prominent statement: "This engine has a primary intended service application as a ——— heavy-duty diesel engine." (The primary intended service applications are light, medium, and heavy, as defined in § 86.085–2);

(K) *For gasoline-fueled engines.* One of the following statements as applicable:

(*1*) For engines certified to the emission standards under § 86.090–10(a)(1)(i), the statement: "This engine is certified for use in all heavy-duty vehicles."

(*2*) For engines certified under the provisions of § 86.090–10(a)(3)(i), the statement: "This engine is certified for use in all heavy-duty vehicles under the special provision of 40 CFR 86.090–10(a)(3)(i)."

(*3*) For engines certified to the emission standards under § 86.090–10(a)(1)(ii), the statement: "This engine is certified for use only in heavy-duty vehicles with a gross vehicle weight rating above 14,000 lbs."

(L) For engines which are part of the heavy-duty diesel particulate averaging program, the family particulate emission limit to which the engine is certified.

(iv) The label may be made up of one or more pieces: *Provided*, that all pieces are permanently attached to the same engine or vehicle part as applicable.

(4)(i) *Gasoline-fueled heavy-duty vehicles.* A permanent, legible label shall be affixed in a readily visible position in the engine compartment. If such vehicles do not have an engine compartment, the label required in paragraphs (a)(4) and (g)(1) of this section shall be affixed in a readily visible position on the operator's enclosure or on the engine.

(ii) The label shall be affixed by the vehicle manufacturer who has been issued the certificate of conformity for such vehicle, in such a manner that it cannot be removed without destroying or defacing the label. The label shall not be affixed to any equipment which is easily detached from such vehicle.

(iii) The label shall contain the following information lettered in the English language in block letters and numericals, which shall be of a color that contrasts with the background of the label:

(A) The label heading: Vehicle Emission Control Information;

(B) Full corporate name and trademark of manufacturer;

(C) Evaporative family identification;

(D) The maximum nominal fuel tank capacity (in gallons) for which the evaporative control system is certified; and

(E) An unconditional statement of compliance with the appropriate model year U.S. Environmental Protection Agency regulations which apply to gasoline-fueled heavy-duty vehicles.

(b) The provisions of this section shall not prevent a manufacturer from also reciting on the label that such vehicle (or engine) conforms to any applicable state emission standards for new motor vehicles (or new motor vehicle engines) or any other information that such manufacturer deems necessary for, or useful to, the proper operation and satisfactory maintenance of the vehicle (or engine).

(c)(1) The manufacturer of any light-duty vehicle or light-duty truck subject to the emission standards (or family particulate emission limits, as appropriate) of this subpart shall, in addition and subsequent to setting forth those statements on the label required by the Department of Transportation (DOT) pursuant to 49 CFR 567.4, set forth on the DOT label or on an additional label located in proximity to the DOT label and affixed as described in 40 CFR 567.4(b), the following information in the English language, lettered in block letters and numerals not less than three thirty-seconds of an

inch high, of a color that contrasts with the background of the label:

(i) The Heading: "Vehicle Emission Control Information."

(ii)(A) *For light-duty vehicles,* the statement: "This Vehicle Conforms to U.S. EPA Regulations Applicable to 19— Model Year New Motor Vehicles."

(B) *For light-duty trucks,*

(*1*) The statement: "This vehicle conforms to U.S. EPA regulations applicable to 19— Model Year New Light-Duty Trucks."

(*2*) If the manufacturer is provided an alternate useful-life period under the provisions of § 86.090–21(f), the prominent statement: "This vehicle has been certified to meet U.S. EPA standard for a useful-life of period of ——— years or ——— miles of operation, whichever occurs first. This vehicle's actual life may vary depending on its service application." The manufacturer may alter this statement only to express the assigned alternate useful life in terms other than years or miles (*e.g.*, hours, or miles only).

(iii) One of the following statements, as applicable, in letters and numerals not less than six thirty-seconds of an inch high and of a color that contrasts with the background of the label:

(A) For all vehicles certified as non-catalyst-equipped: "NON-CATALYST"

(B) For all vehicles certifed as catalyst-equipped which are included in a manufacturer's catalyst control program for which approval has been given by the Administrator: "CATALYST—APPROVED FOR IMPORT"

(C) For all vehicles certified as catalyst-equipped which are not included in a manufacturer's catalyst control program for which prior approval has been given by the Administrator: "CATALYST"

(2) In lieu of selecting either of the labeling options of paragraph (c)(1) of this section, the manufacturer may add the information required by paragraph (c)(1)(iii) of this section to the label required by paragraph (a) of this section. The required information will be set forth in the manner prescribed by paragraph (c)(1)(iii) of this section.

(d) Incomplete light-duty trucks or incomplete heavy-duty vehicles optionally certified as light-duty trucks shall have the following prominent statement printed on the label required by paragraph (a)(2) of this section in lieu of the statement required by paragraph (a)(2)(iii)(E) of this section: "This vehicle conforms to U.S. EPA regulations applicable to 19— Model Year New Light-Duty Trucks when completed at a maximum curb weight of ——— pounds or at a maximum gross vehicle weight rating of ——— pounds or with a maximum frontal area of —— square feet."

(e) Incomplete heavy-duty vehicles having a gross vehicle weight rating of 8,500 pounds or less shall have one of the following statements printed on the label required by paragraph (a)(3) of this section in lieu of the statement required by paragraph (a)(3)(iii)(H) of this section: "This engine conforms to U.S. EPA regulations applicable to 19— Model Year New Heavy-Duty Engines when installed in a vehicle completed at a curb weight of more than 6,000 pounds or with a frontal area of greater than 45 square feet."

(f) The manufacturer of any incomplete light-duty vehicle or light-duty truck shall notify the purchaser of such vehicle of any curb weight, frontal area, or gross vehicle weight rating limitations affecting the emission certificate applicable to that vehicle. This notification shall be transmitted in a manner consistent with National Highway Traffic Safety Administration safety notification requirements published in 49 CFR Part 568.

(g)(1) Incomplete gasoline-fueled heavy-duty vehicles shall have the following prominent statement printed on the label required in paragraph (a)(4) of this section: "(Manufacturer's corporate name) has determined that this vehicle conforms to U.S. EPA regulations applicable to 19— Model Year New Gasoline-Fueled Heavy-Duty Vehicles when completed with a nominal fuel tank capacity not to exceed — gallons. Persons wishing to add fuel tank capacity beyond the above maximum must submit a written statement to the Administrator that the hydrocarbon storage system has been upgraded according to the requirements of 40 CFR § 86.090–35(g)(2)."

(2) Persons wishing to add fuel tank capacity beyond the maximum specified on the label required in paragraph (g)(1) of this section shall:

(i) Increase the amount of fuel tank vapor storage material according to the following function:

$$Cap_f = Cap_i \left(\frac{T.\ Vol.}{Max.\ Vol.} \right)$$

Where:

Cap_f = final amount of fuel tank vapor storage material, grams.

Cap_i = initial amount of fuel tank vapor storage material, grams.

T. Vol. = total fuel tank volume of completed vehicle, gallons.

Max. Vol. = maximum fuel tank volume as specified on the label required in paragraph (g)(1) of this section, gallons.

(ii) Use, if applicable, hosing for fuel vapor routing which is at least as impermeable to hydrocarbon vapors as that used by the primary manufacturer.

(iii) Use vapor storage material with the same adsorptive characteristics as that used by the primary manufacturer.

(iv) Connect, if applicable, any new hydrocarbon storage device to the existing hydrocarbon storage device in series such that the original hydrocarbon storage device is situated between the fuel tank and the new hydrocarbon storage device. The original hydrocarbon storage device shall be sealed such that vapors cannot reach the atmosphere. The elevation of the original hydrocarbon storage device shall be equal to or lower than the new hydrocarbon storage device.

(v) Submit a written statement to the Administrator that paragraphs (g)(2)(i) through (g)(2)(iv) of this section have been complied with.

(3) If applicable, the Administrator will send a return letter verifying the receipt of the written statement required in paragraph (g)(2)(v) of this section.

SUBPART N—[AMENDED]

20. A new § 86.1301–87 is proposed to be added to Subpart N, to read as follows:

§ 86.1301–87 Scope; applicability.

This subpart contains gaseous emission test procedures for gasoline-fueled heavy-duty engines and gaseous and particulate emission test procedures for heavy-duty diesel engines. It applies to 1987 and later model years.

21. A new § 86.1306–87 is proposed to be added to Subpart N, to read as follows:

§ 86.1306–87 Equipment required and specifications; overview.

This subpart contains procedures for exhaust emissions tests on diesel or gasoline-fueled heavy-duty engines. Equipment required and specifications are as follows:

(a) *Exhaust emission tests.* All engines subject to this subpart are tested for exhaust emissions. Diesel and gasoline-fueled engines are tested identically with the exception of the systems used to measure hydrocarbon, nitrogen oxide, and particulate; diesel engines require a heated, continuous hydrocarbon detector and a continuous nitrogen oxide detector (§ 86.1310–87); gasoline-fueled engines are not tested for particulate emissions (§ 86.1309–84). Necessary equipment and specifications appear in §§ 86.1308–84, 86.1309–84, 86.1310–87 and 86.1311–84.

(b) *Fuel, analytical gas, and engine cycle specifications.* Fuel specifications for exhaust emission testing are specified in § 86.1313–84. Analytical gases are specified in § 86.1314–84. The EPA heavy-duty transient engines cycles for use in exhaust testing are described in § 86.1333–84 and specified in Appendix I to this part.

22. A new § 86.1310–87 is proposed to be added to Subpart N, to read as follows:

§ 86.1310–87 Exhaust gas sampling and analytical system; diesel engines.

(a) *General.* The exhaust has sampling system described in this paragraph is designed to measure the true mass of both gaseous and particulate emissions in the exhaust of heavy-duty diesel engines. This system utilizes the CVS concept (described in § 86.1309–84) of measuring mass emissions of CO, CO_2, and particulate. A continuously integrated system is required for HC and NO_x measurement, and is allowed for CO and CO_2. The mass of gaseous emissions is determined from the sample concentration and total flow over the test period. The mass of particulate emissions is determined from a proportional mass sample collected on a filter and from the sample flow and total flow over the test period. As an option, the measurement of total fuel mass consumed over a cycle may be substituted for the exhaust measurement of CO_2. General requirements are as follows:

(1) This sampling system requires the use of a PDP–CVS, or a CFV–CVS with either a heat exchanger or electronic flow compensation. Figure N88–3 is a schematic drawing of the PDP system. Figure N88–4 is a schematic drawing of the CFV system.

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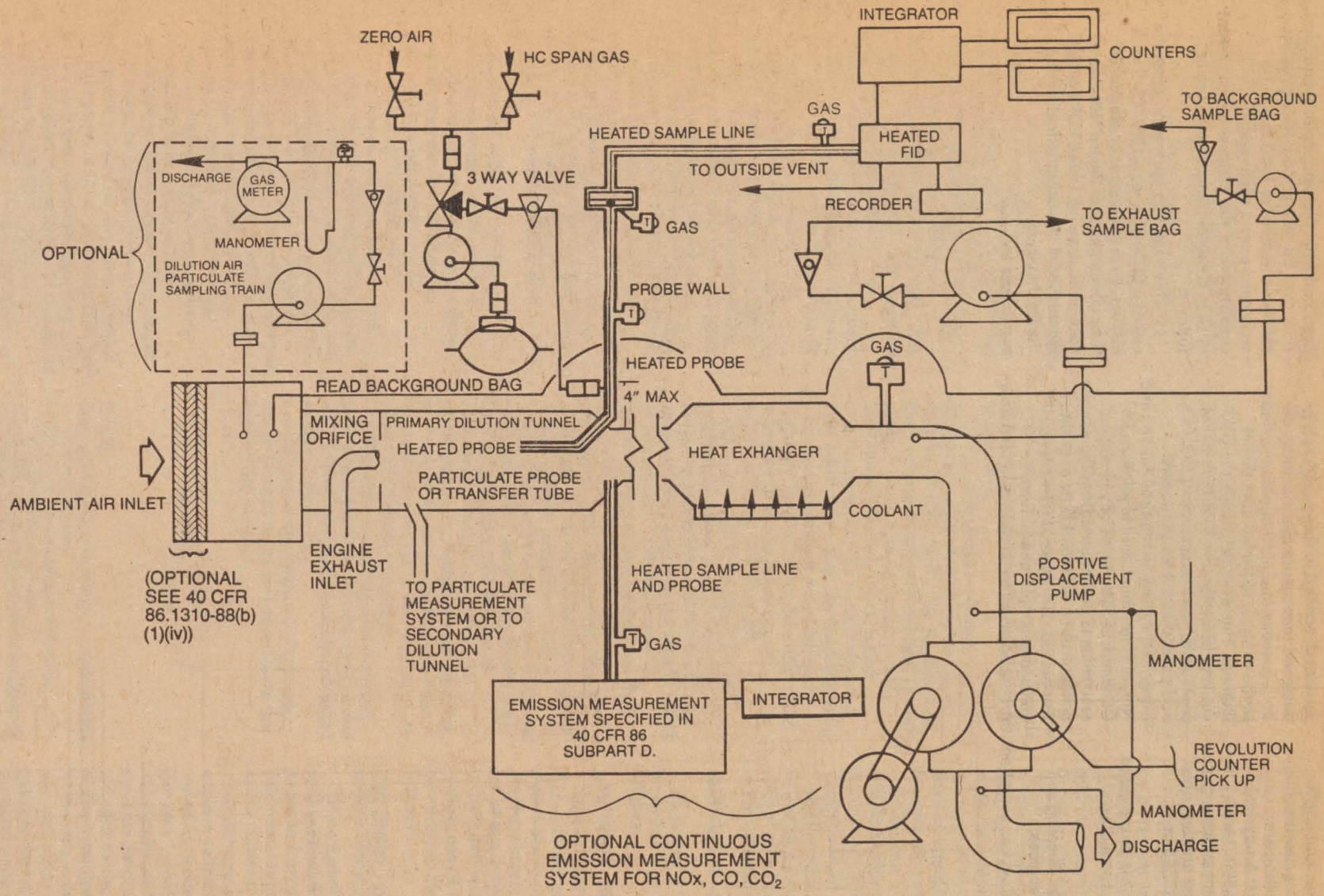

FIGURE N88-3
GASEOUS EMISSIONS SAMPLING SYSTEM (PDP-CVS)
(FOR DIESEL ENGINES ONLY)
(SEE FIGURE N84-5 FOR SYMBOL LEGEND)

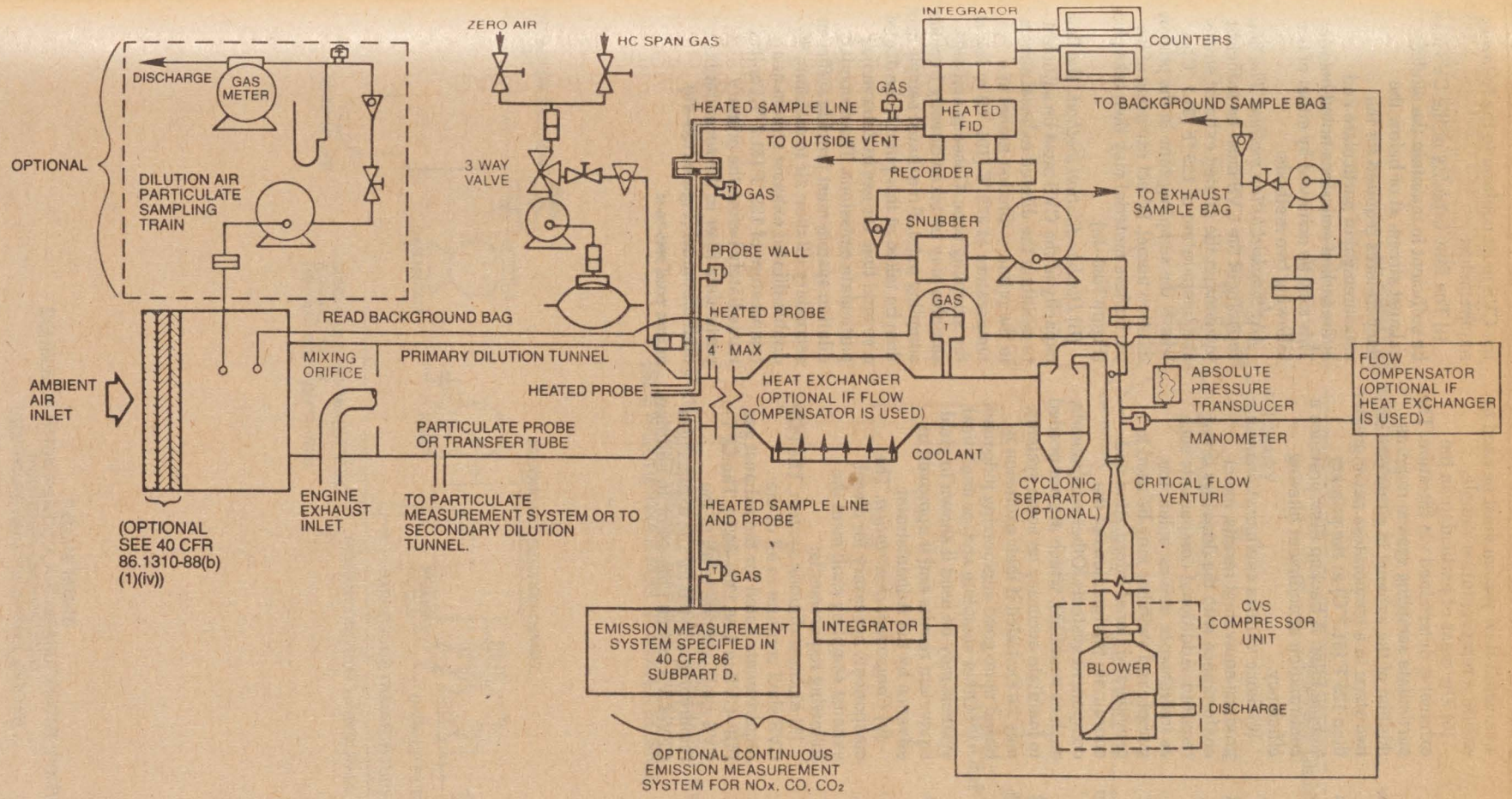

FIGURE N88-4
GASEOUS EMISSIONS SAMPLING SYSTEM (CFV-CVS)
(FOR DIESEL ENGINES ONLY)
(SEE FIGURE N84-5 FOR SYMBOL LEGEND)

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(2) The HC analytical system for diesel engines requires a heated flame ionization detector (HFID) and heated sample system.

(i) The HFID sample must be taken directly from the diluted exhaust stream through a heated probe and integrated continuously over the test cycle. Unless compensation for varying flow is made, the HFID must be used with a constant flow sytem to ensure a representative sample.

(ii) The heated probe shall be located in the primary dilution tunnel and far enough downstream of the mixing chamber to ensure a uniform sample distributiom across the CVS duct at the point of sampling.

(3) The CO and CO_2 analytical system for diesel engines requires:

(i) Bag sampling (§ 86.1309–84) and analytical (§ 86.1311–84) capabilities as shown in Figure N88–3 (or Figure N88–4), or

(ii) Continuously integrated measurement of diluted CO and CO_2 meeting the minimum requirements and technical specifications contained in paragraph (b)(5) of this section. Unless compensation for varying flow is made, a constant flow system must be used to ensure a representative sample.

(4) The NO_x analytical system for diesel engines requires a continuously integrated measurement of diluted NO_x meeting the minimum requirements and technical specifications contained in paragraph (b)(5) of this section. Unless compensation for varying flow is made, a constant flow system must be used to ensure a representative sample.

(5) The mass of particulate in the exhaust is determined via filtration. The particulate sampling system requires dilution of the exhaust in either one or two steps to a temperature never greater than 125°F (51.7°C) at the primary sample filter. A backup filter provides a confirmation of sufficient filtering efficiency.

(6) Since various configurations can produce equivalent results, exact conformance with the drawings is not required. Additional components such as instruments, valves, solenoids, pumps, and switches may be used to provide additional information and coordinate the functions of the component systems. Other components, such as snubbers, which are not needed to maintain accuracy on some systems, may be excluded if their exclusion is based upon good engineering judgment.

(7) Other sampling and/or analytical systems may be used if shown to yield equivalent results and if approved in advance by the Administrator.

(b) *Component description.* The components necessary for diesel exhaust sampling shall meet the following requirements:

(1) *Exhaust dilution system.* The PDP–CVS shall conform to all of the requirements listed for the exhaust gas PDP–CVS in § 86.1309–84(b). The CFV–CVS shall conform to all of the requirements listed for the exhaust gas CFV–CVS in § 86.1309–84(c). In addition, the CVS must conform to the following requirements:

(i) The flow capacity of the CVS must be sufficient to maintain the diluted exhaust stream at or below the temperatures required for the measurement of particulate and hydrocarbon emissions noted below. This may be achieved by either of the following two methods:

(A) *Single-dilution method.* The flow capacity of the CVS must be sufficient to maintain the diluted exhaust stream at a temperature of 125 °F (51.7 °C) or less at the sampling zone in the primary dilution tunnel. Direct sampling of the particulate material may then take place (Figure N88–4a).

(B) *Double-dilution method.* The flow capacity of the CVS must be sufficient to maintain the diluted exhaust stream in the primary dilution tunnel at a temperature of 375 °F (191 °C) or less at the sampling zone. Gaseous emission samples may be taken directly from this sampling point. An exhaust sample must then be taken at this point to be diluted a second time for use in determining particulate emissions. The secondary dilution system must provide sufficient secondary dilution air to maintain the double-diluted exhaust stream at a temperature of 125 °F (51.7 °C) or less immediately before the primary particulate filter in the secondary dilution tunnel (Figure N88–4b).

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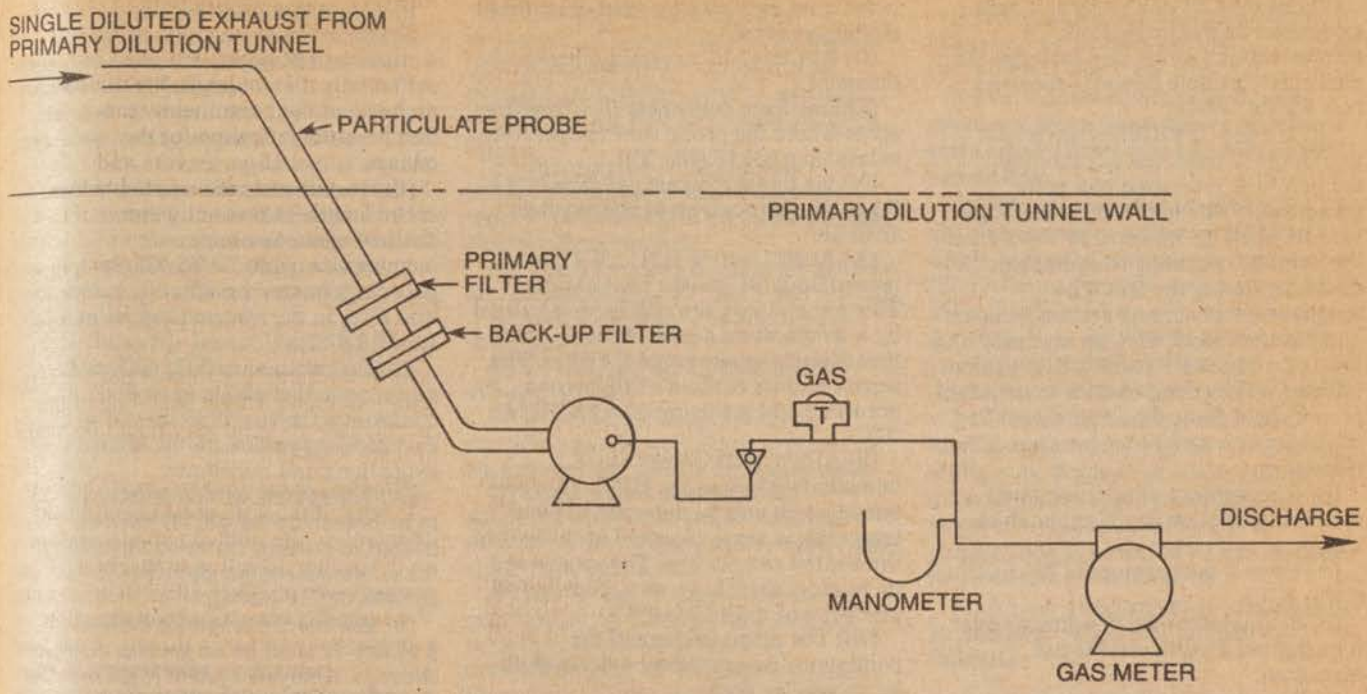

FIGURE N88-4a
SINGLE DILUTION PARTICULATE MEASUREMENT SYSTEM
(FOR DIESEL ENGINES ONLY)
(SEE FIGURE N84-5 FOR SYMBOL LEGEND)

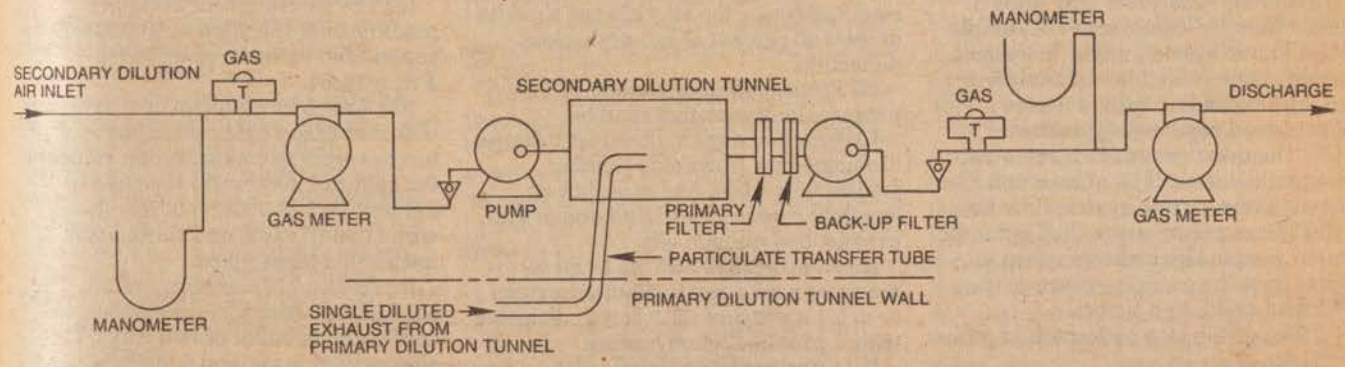

FIGURE N88-4b
DOUBLE DILUTION PARTICULATE MEASUREMENT SYSTEM
(FOR DIESEL ENGINES ONLY)
(SEE FIGURE N84-5 FOR SYMBOL LEGEND)

BILLING CODE 6560-50-C

(ii) For the CFV-CVS, either a heat exchanger or electronic flow compensation (which also includes the particulate sample flows) is required (see Figure N88–4).

(iii) For the CFV-CVS when a heat exchanger is used, the gas mixture temperature, measured at a point immediately ahead of the critical flow venturi, shall be within ±20°F (11°C) of the average operating temperature observed during the test. The temperature measuring system (sensors and readout) shall have an accuracy and precision of ±3.4°F (1.9°C). For systems utilizing a flow compensator to maintain proportional flow, the requirement for maintaining constant temperature is not necessary.

(iv) The primary dilution air and secondary dilution air (if applicable) shall:

(A) Have a temperature of 77°± 9°F (25°— 5 °C).

(B) Be filtered at the dilution air inlet if background particulate is not measured.

(2) [Reserved]

(3) *Continuous HC measurement system.*

(i) The continous HC sample system (as shown in Figure N88–3 or N88–4) uses an "overflow" zero and span system. In this type of system, excess zero or span gas spills out of the probe when zero and span checks of the analyzer are made. The "overflow" system may also be used to calibrate the HC analyzer per § 86.1321–84(b), although this is not required.

(ii) No other analyzers may draw a sample from the continuous HC sample probe, line or system, unless a common sample pump in used for all analyzers and the sample line system design reflects good engineering practice.

(iii) The overflow gas flow rates into the sample line shall be at least 105 percent of the sample system flow rate.

(iv) The overflow gases shall enter the heated sample line no farther than 4 inches from the outside surface of the CVS duct or dilution tunnel.

(v) The continuous hydrocarbon probe shall be:

(A) Installed in the primary dilution tunnel at a point where the dilution air and exhaust are well mixed (*i.e.*, approximately 10 tunnel diameters downstream of the point where the exhaust enters the dilution tunnel).

(B) Sufficiently distant (radially) from other probes and the tunnel wall so as to be free from the influence of any wakes or eddies.

(C) Heated over the entire length to maintain a 375° ±20 °F (191°±11 °C) *wall* temperature. (Insulation and other techniques may also be used to maintain the temperature.)

(D) 0.19 in. (0.457 cm) minimum inside diameter.

(E) Free from cold spots (*i.e.*, free from spots where the probe *wall* temperature is less than 355 °F (180 °C)).

(iv) the dilute exhaust *gas* flowing in the total hydrocarbon sample system shall be:

(A) At 375°±10 °F (191°±6 °C) immediately before the heated filter. This *gas* temperature will be determined by a temperature sensor located immediately upstream of the filter. The sensor and its readout shall have an accuracy and precision of ±3.4 °F (1.9 °C).

(B) At 375°±10 °F (191°±6 °C) immediately before the HFID. This *gas* temperature will be determined by a temperature sensor located at the exit of the heated sample line. The sensor and its readout shall have an accuracy and precision of ±3.4 °F (1.9 °C).

(vii) The response time of the continuous measurement system shall be no greater than:

(A) 1.5 seconds from an instantaneous step change at the probe entrance to the analyzer to within 90 percent of the step change.

(B) 20 seconds from an instantaneous step change at the entrance to the sample probe or overflow span gas port to within 90 percent of the step change. Analysis system reponse time shall be coordinated with CVS flow fluctuations and sampling time/test cycle offsets if necessary.

(C) For the purpose of verification of response times, the step change shall be at least 60 percent of full-scale chart deflection.

(4) *Primary-dilution tunnel.* (i) The primary dilution tunnel shall be:

(A) Small enough in diameter to cause turbulent flow (Reynolds Number greater than 4,000) and of sufficient length to cause complete mixing of the exhaust and dilution air:

(B) At least 18 inches (45.7 cm) in diameter with a single-dilution system or at least 8 inches (20.3 cm) in diameter with a double-dilution system;

(C) Constructed of electrically conductive material which does not react with the exhaust components; and

(D) Electrically grounded.

(ii) The temperature of the diluted exhaust stream inside of the primary dilution tunnel shall be sufficient to prevent water condensation.

(iii) The engine exhaust shall be directed downstream at the point where it is introduced into the primary dilution tunnel.

(5) *Continously integrated NO_x, CO, and CO_2 measurement systems.*

(i) The sampe probe shall:

(A) Be in the same plane as the continuous HC probe, but shall be sufficiently distant (radially) from other probes and the tunnel wall so as to be free from the influences of any wakes or eddies.

(B) Heated and insultated over the entire length, to prevent water condensation, to a minimum temperature of 131 °F (55 °C). Sample *gas* temperature immediately before the first filter in the system shall be at least 131 °F (55 °C).

(ii) The continuous NO_x, CO, or CO_2 sampling and analysis system shall conform to the specifications of 40 CFR Part 86, Subpart D with the following exceptions and revisions:

(A) The system components required to be heated by Subpart D need only be heated to prevent water condensation, the minimum component temperature shall be 131 °F (55 °C).

(B) The system response defined in § 86.329–79 shall be no greater than 20 seconds. Analysis system response time shall be coordinated with CVS flow fluctuations and sampling time/test cycle offsets, if necessary.

(C) Alternative NO_x measurement techniques outlined in § 86.346–79 are not permitted for NO_x measurement in this Subpart.

(D) All analytical gases shall conform to the specifications of § 86.1314–84.

(E) Any range on a linear analyzer below 155 ppm shall have and use a calibration curve conforming to § 86.330–79.

(F) The measurement accuracy requirements specified in § 86.338–79 are superseded by those specified in § 86.1338–84.

(iii) The chart deflections of analyzers with non-linear calibration curves shall be converted to concentration values by the calibration curve(s) specified in Subpart D (§ 86.330–79) before flow correction (if used) and subsequent integration takes place.

(6) *Particulate sampling system.* The particulate collection system must be configured in either of two ways. The *single-dilution* method collects a proportional sample from the primary tunnel, and then passes this sample through the collection filter (Figure N88–4a). The *double-dilution* method collects a proportional sample from the primary tunnel, and then transfers this sample to a secondary dilution tunnel where the sample is further diluted; the double-diluted sample is then passed through the collection filter (Figure N88–4b). Without flow compensation, proportional sampling is achieved by introducing the seconary dilution air at a

constant mass flow rate, and removing the double-diluted sample at a constant mass flow rate. The requirements for these two systems are:

(i) *Single Dilution Method.* (A) The particulate sample probe shall be:

(*1*) Installed facing upstream at a point where the dilution air and exhaust air are well mixed (*i.e.*, on the primary tunnel centerline, approximately 10 tunnel diameters downstream of the point where the exhaust enters the primary dilution tunnel).

(*2*) Sufficiently distant (radially) from other sampling probes so as to be free from the influence of any wakes or eddies produced by the other probes.

(*3*) 0.5 in. (1.27 cm) minimum inside diameter.

(*4*) The distance from the sampling tip to the filter holder shall be at least 5 probe diameters for filters located inside the primary dilution tunnel, and not more than 40 inches (102 cm) for filters located outside the primary dilution tunnel.

(*5*) Designed to minimize the deposition of particulate in the probe (*i.e.*, bends should be as gradual as possible, protrusions (due to sensors, etc.) should be smooth and not sudden, etc.).

(B) The particulate sample pump(s) shall be located sufficiently distant from the dilution tunnel so that the inlet gas temperature is maintained at a constant temperature (±5 °F (±2.8 °C)) if flow compensation is not used.

(C) The gas meters or flow instrumentation shall be located sufficiently distant from the tunnel so that the inlet gas temperature remains constant (±5 °F (±2.8 °C)) if flow compensation is not used.

(ii) *Double-dilution method.* (A) The particulate sample transfer tube shall be configured and installed so that:

(*1*) The inlet faces upstream in the primary dilution tunnel at a point where the primary dilution air and exhaust are well mixed (*i.e.*, on the primary tunnel centerline, approximately 10 tunnel diameters downstream of the point where the exhaust enters the primary dilution tunnel).

(*2*) The particulate sample exists on the centerline of the secondary tunnel and points downstream.

(B) The particulate sample transfer tube shall be:

(*1*) Sufficiently distant (radially) from other sampling probes (in the primary dilution tunnel) so as to be free from the influence of any wakes or eddies produced by the other probes.

(*2*) 0.5 in. (1.27 cm) minimum inside diameter.

(*3*) No longer than 36 in. (91.4 cm) from inlet plane to exit plane.

(*4*) Designed to minimize the deposition of particulate during transfer (*i.e.*, bends should be as gradual as possible, protrusions (due to sensors, etc.) should be smooth and not sudden, etc.).

(*5*) Constructed of electrically conductive material which does not react with the exhaust components, and electrically grounded.

(C) The secondary dilution air shall be at a temperature of 77°±9 °F (25°±5 °C).

(D) The secondary-dilution tunnel shall be:

(*1*) 3.0 inches (7.62 cm) minimum inside diameter.

(*2*) Of sufficient length so as to provide a residence time of at least 0.25 seconds for the double-diluted sample.

(*3*) Constructed of electrically conductive material which does not react with the exhaust components, and electrically grounded.

(E) Additional dilution air must be provided so as to maintain a sample temperature of 125 °F (51.7 °C) immediately before the primary sample filter. This dilution air must be introduced at a known constant mass flow rate in order to maintain proportional sampling. This can be achieved by either of the following methods:

(*1*) A PDP-type pump flowing filtered dilution air at a temperature of 77°±9 °F (25°±5 °C) and essentially constant pressure (atmospheric is acceptable) along with a gas meter or flow instrumentation for mass determination. (See § 86.1320–87 for calibration specifics.) The gas meter or flow instrumentation shall be located so that the inlet gas temperature remains 77°±9 °F (25°±5 °C).

(*2*) A choked critical flow orifice flowing filtered dilution air. For mass determination, a gas meter or other flow instrumentation is acceptable. The gas meter or flow instrumentation shall be located so that the inlet gas temperature remains at 77°±9 °F (25°±5 °C).

(F) The primary filter holder shall be located within 12.0 in. (30.5 cm) of the exit of the secondary dilution tunnel.

(G) The particulata sample pump shall be located sufficiently distant from the dilution tunnel so that the inlet gas is maintained at a constant temperature (±5 °F ±2.8 °C)) if flow compensation is not used.

(H) The gas meter or flow instrumentation (if double-dilution, this means the downstream device) shall be located sufficiently distant from the tunnel (either primary or secondary) so that the inlet gas temperature remains essentially constant (±5 °F ±2.8 °C)) if flow compensation is not used.

(*7*) *Particulate sampling filters.*

(i) Fluorocarbon-coated glass fiber filters or fluorocarbon-based (membrane) filters are required.

(ii) Particulate filters must have a minimum diameter of 70 mm (60 mm stain area). Larger diameter filters are acceptable.

(iii) The dilute exhaust will be simultaneously sampled by a pair of filters (one primary and one back-up filter) during the cold-start test and by a second pair of filters during the hot-start test. The back-up filter holder shall be located no more than 4 inches downstream of the primary filter holder.

(iv) The recommended minimum loading on a primary 70 mm filter is 5.3 milligrams. Equivalent loadings (*i.e.*, mass/stain area) are recommended for larger filters. For equivalency calculations assume the 70 mm loading has a 60 mm stain diameter.

23. A new § 86.1312–87 is proposed to be added to Subpart N, to read as follows:

§ 86.1312–87 Weighing chamber and microgram balance specifications.

(a) *Ambient conditions.* (1) *Temperature.* The temperature of the chamber (or room) in which the particulate filters are conditioned and weighed shall be maintained with within ±10 °F ±6 °C) of a set point between 68 °F (20°C) and 86 °F (30 °C) during all filter conditioning and weighing.

(2) *Humidity.* The relative humidity of the chamber (or room) in which the particulate filters are conditioned and weighed shall be maintained with within ±10 percent (relative humidity) of a set point between 30 and 70 percent during all filter conditioning and weighing.

(3) The chamber (or room) environment shall be free of any ambient contaminates (such as dust) that would settle on the particulate filters during their stabilization. It is required that two reference filters remain in the weighing room at all times, and that these filters be weighed once each 24-hour period. If the weight of either or both of these two reference filters changes by more than ±1.0 percent of the nominal filter loading (a) minimum of 5.3 milligrams, if possible) during the conditioning period, then all filters in the process of being stabilized should be discarded, and any tests repeated. The reference filters shall be changed at least once per month.

(b) *Microgram balance specifications.* The microgram balance used to determine the weights of all filters shall have a precision (standard deviation) and readability of one microgram.

24. A new § 86.1320–87 is proposed to be added to Subpart N, to read as follows:

§ 86.1320–87 Gas meter or flow instrumentation calibration, particulate measurement.

(a) Sampling for particulate emissions requires the use of gas meters or flow instrumentation to determine flow through the particulate filters. This instrument shall receive initial and periodic calibrations as follows:

(1) Install a standard air flow measurement device upstream of the instrument. A critical flow orifice, a bellmouth nozzle, or a laminar flow element is recommended as the standard device.

(2) Flow air through the calibration system at the sample flow rate used for particulate testing and at the backpressure which occurs during the sample test.

(3) When the temperature and pressure in the system have stabilized, measure the indicated gas volume over a time period of at least 5 minutes and until a gas volume of at least ±1 percent accuracy can be determined by the standard device. Record the stabilized air temperature and pressure upstream of the instrument and as required for the standard device.

(4) Calculate air flow at standard conditions as measured by both the standard device and the instrument. (Standard conditions are defined as 68°F (20°C) and 29.92 in. of mercury (101.3 kPa).)

(5) Repeat the procedures of paragraphs (a) (2) through (4) of this section using flow rates which are 10 percent above and 10 percent below the nominal sampling flow rate.

(6) If the air flow at standard conditions measured by the instrument differs by more than ±1 percent from the standard measurement at any of the three measured flow rates, then a correction shall be made by either of the following two methods:

(i) Mechanically adjust the instrument so that it agrees within 1 percent of the standard measurement at the three specified flow rates, or

(ii) Develop a continuous best fit calibration curve for the instrument (as a function of the standard device flow measurement) from the three calibration points that represents the data to within 1 percent at all points to determine corrected flow.

(b) *Other systems.* A bell prover may be used to calibrate the instrument if the procedure outlined in ANSI B109.1–1973 is used. Prior approval by the Administrator is not required to use the bell prover.

25. A new § 86.1327–87 is proposed to be added to Subpart N, to read as follows:

§ 86.1327–87 Engine dynamometer test procedures; overview.

(a) The engine dynamometer test procedure is designed to determine the brake-specific emissions of hydrocarbons, carbon monoxide, oxides of nitrogen and particulate (diesels only). The test procedure consists of a "cold" start test following either natural or forced cool-down periods described in § 86.1334–84 and § 86.1335–84, respectively. A "hot" start test follows the "cold" start test after a hot soak of 20 minutes. The idle test of Subpart P may be run after the "hot" start test. The exhaust emissions are diluted with ambient air and a continuous proportional sample is collected for analysis during both the cold- and hot-start tests. The composite samples collected are analyzed either in bags or continuously for hydrocarbons (HC), carbon monoxide (CO), carbon dioxide (CO_2), and oxides of nitrogen (NO_x). A bag or continuous sample of the dilution air is similarly analyzed for background levels of hydrocarbon, carbon monoxide, carbon dioxide, and oxides of nitrogen. In addition, for diesels only, particulates are collected on fluorocarbon-coated glass fiber filters or fluorocarbon-based (membrane) filters, and the dilution air is prefiltered.

(b) Engine torque and rpm shall be recorded continuously during both the cold and hot start tests. Data points shall be recorded at least once every second.

(c) Using the torque and rpm feedback signals the brake horsepower is integrated with respect to time for the cold and hot cycles. This produces a brake horsepower-hour value that enables the brake-specific emissions to be determined (see § 86.1342–84, Calculations; gaseous exhaust emissions and § 86.1343–87, Calculations; particulate exhaust emissions).

(d)(1) When an engine is tested for exhaust emissions or is operated for service accumulation on an engine dynamometer, the complete engine shall be tested, with all emission control devices installed and functioning.

(2) Evaporative emission controls need not be connected if data are provided to show that normal operating conditions are maintained in the engine induction system.

(3) On air-cooled engines, the fan shall be installed.

(4) Additional accessories (*e.g.*, oil cooler, alternators, air compressors, etc.) may be installed or their loading simulated if typical of the in-use application.

(5) The engine may be equipped with a production type starter.

(e) Means of engine cooling which will maintain the engine operating temperatures (*i.e.*, temperatures of intake air, oil, water, etc.) at approximately the same temperature as specified by the manufacturer shall be used. Auxiliary fan(s) may be used to maintain engine cooling during operation on the dynamometer. Only water is allowed as an engine-coolant medium. Rust inhibitors and lubrication additives may be used, up to the levels recommended by the additive manufacturer. Antifreeze mixtures (*i.e.*, ethlene glycol, alcohols) and other coolants that would enhance heat transfer are specifically prohibited.

(f) *Exhaust system.* The exhaust system shall meet the following requirements:

(1) *Gasoline-fueled engines.* A chassis-type exhaust system shall be used. For all catalyst systems, the distance from the exhaust manifold flange(s) to the catalyst shall be the same as in the vehicle configuration unless the manufacturer provides data showing equivalent performance at another location.

(2) *Diesel engines.* Both a chassis-type and facility-type exhaust system may be used. The exhaust backpressure or restriction shall be typical of those seen in the actual average vehicle exhaust system configuration and may be set with a valve (muffler omitted).

(i) The chassis-type exhaust system shall meet the following requirements:

(A) The distance from the exhaust manifold flange(s) to any exhaust aftertreatment device shall be the same as in the vehicle configuration unless the manufacturer is able to demonstrate equivalent performance at another location.

(B) The distance from the exhaust manifold flange to the exist of the chassis-type exhaust system shall be a maximum of 12 feet (3.66 m).

(ii) The facility-type exhaust system shall meet the following requirements:

(A) The exhaust system tubing length from the exist of the chassis exhaust system or engine exhaust manifold flange to the primary dilution tunnel shall be 12 feet (3.66 m) or less if uninsulated, and 20 feet (6.1 m) or less if insulated. It must be composed of smooth stainless steel tubing. This tubing shall have a maximum inside diameter of 6.0 in. (15.2 cm).

(B) Short sections (altogether not to exceed 20 percent of the entire tube

length) of flexible tubing at connection points are allowed.

(C) If the tubing is insulated, the radial thickness of the insulation must be at least R inches, where $R=16(k)-2(r)$.

Where:

(1) k=Thermal conductivity of the insulating material (BTU/hr-ft- °F), and

(2) r=Outer radius of uninsulated tubing (inches).

26. A new § 86.1337–87 is proposed to be added to Subpart N, to read as follows:

§ 86.1337–87 Engine dynamometer test run.

(a) The following steps shall be taken for each test:

(1) Prepare the engine, dynamometer, and sampling system for the cold-start test. Change filters, etc. and leak check as necessary.

(2) Connect evacuated sample collection bags to the dilute exhaust and dilution air sample collection systems.

(3) Attach the CVS to the engine exhaust system any time prior to starting the CVS.

(4) Start the CVS (if not already on), the sample pumps (except for the diesel particulate sample pump(s), if applicable), the engine cooling fan(s), and the data collection system. The heat exchanger of the constant volume sampler (if used), and the heated components of any continuous sample system(s) (if applicable) shall be preheated to their designated operating temperatures before the test begins. (See § 86.1340–84(e) for continuous sampling procedures.)

(5) Adjust the sample flow rates to the desired flow rates and set the CVS gas flow measuring devices to zero. (Note.—CFV–CVS sample flow rate is fixed by the venturi design.)

(6) Carefully install a clean particulate sample filter into each of the filter holders (diesel only).

(7) Follow the manufacturer's choke and throttle instructions for cold starting. Simultaneously start the engine and begin exhaust and dilution air sampling. For diesel engines, turn on the hydrocarbon and NO_x (and CO and CO_2, if continuous) analyzer system integrators (if used) and turn on the particulate sample pumps and indicate the start of the test on the data collection medium.

(8) As soon as it is determined that the engine is started, start a "free idle" timer.

(9) Allow the engine to idle freely with no-load for 24±1 seconds. This idle period for automatic transmission engines may be interpreted as an idle speed in neutral or park. All other idle conditions shall be interpreted as an idle speed in gear. It is permissible to lug the engine down to curb idle speed during the last 8 seconds of the free idle period for the purpose of engaging dynamometer control loops.

(10) Begin the transient engine cycles such that the first non-idle record of the cycle occurs at 25±1 seconds. The free idle time is included in the 25±1 seconds. During diesel particulate testing without the use of flow compensation, adjust the sample pump(s) so that the flow rate through the particulate sample probe or transfer tube is maintained at a constant value within ±5 percent of the set flow rate. Record the average temperature and pressure at the gas meter(s) or flow instrumentation inlet. If the set flow rate cannot be maintained because of high particulate loading on the filter, the test shall be terminated. The test shall be rerun using a lower flow rate and/or a larger diameter filter.

(11) On the last record of the cycle, cease sampling. Immediately turn the engine off, and start a hot-soak timer. For diesel engines, also turn off the particulate sample pumps, the gas flow measuring device(s) and any continuous analyzer system integrators and indicate the end of the test on the data collection medium. Sampling systems should continue to sample after the end of the test cycle until system response times have elapsed.

(12) Immediately after the engine is turned off, turn off the engine cooling fan(s) if used, and the CVS blower (or disconnect the exhaust system from the CVS). As soon as possible, transfer the "cold start cycle" exhaust and dilution air bag samples to the analytical system and process the samples according to § 83.1340–84. A stabilized reading of the exhaust sample on all analyzers shall be obtained within 20 minutes of the end of the sample collection phase of the test. For diesel engines carefully remove each particulate sample filter from its holder and place each in a petri dish and cover.

(13) Allow the engine to soak for 20±1 minutes.

(14) Prepare the engine and dynamometer for the hot start test.

(15) Connect evacuated sample collection bags to the dilute exhaust and dilution air sample collection systems.

(16) Start the CVS (if not already on) or connect the exhaust system to the CVS (if disconnected). Start the sample pumps (except the diesel particulate sample pump(s), if applicable), the engine colling fan(s) and the data collection system. The heat exchanger of the constant volume sampler (if used) and the heated components of any continuous sampling system(s) (if applicable) shall be preheated to their designated operating temperatures before the test begins. See § 86.1340–84(e) for continuous sampling procedures.

(17) Adjust the sample flow rates to the desired flow rate and set the CVS gas flow measuring devices to zero.

(18) Carefully install a clean particulate filter in each of the filter holders (for diesels only).

(19) Follow the manufacturer's choke and throttle instruction for hot starting. Simultaneously start the engine and begin exhaust and dilution air sampling. For diesel engines, turn on the hydrocarbon and NO_x (and CO and CO_2, if continuous) analyzer system integrators (if used), indicate the start of the test on the data collection medium, and turn on the particulate sample pump(s).

(20) As soon as it is determined that the engine is started, start a "free idle" timer.

(21) Allow the engine to idle freely with no-load for 24±1 seconds. The provisions and interpretations of paragraph (a)(9) of this section apply.

(22) Begin the transient-engine cycle such that the first non-idle record of the cycle occurs at 25±1 seconds. The free idle is included in the 25±1 seconds.

(23) On the last record of the cycle, allow sampling system response times to elapse and cease sampling. For diesel engines, turn off the particulate sample pump(s), the gas flow measuring device(s) and any continuous analyzer system integrators and indicate the end of the test on the data collection medium.

(24) As soon as possible, transfer the "hot start cycle" exhaust and dilution air bag samples to the analytical system and process the samples according to § 86.1340–84. A stabilized reading of the exhaust sample on all analyzers shall be obtained with 20 minutes of the end of the sample collection phase of the test. For diesel engines, carefully remove each particulate sample filter from its holder and place in a clean petri dish and cover as soon as possible. Within 1 hour after the end of the hot start phase of the test, transfer the four particulate filters to the weighing chamber for post-test conditioning.

(25) The CVS and the engine may be turned off, if desired.

(b) The procedure in paragraph (a) of this section is designed for one sample bag for the cold-start portion and one for the hot-start portion. It is also permissible to use more than one sample bag per test portion.

(c) If a dynamometer test run is determined to be void, corrective action may be taken. The engine may then be

allowed to cool (naturally or forced) and the dynamometer test rerun per paragraph (a) or (b) of this section.

27. A new § 86.1339–87 is proposed to be added to Subpart N, to read as follows:

§ 86.1339–87 Diesel particulate filter handling and weighing.

(a) At least 1 hour, but not more than 80 hours, before the test, place each filter in an open petri dish and place in a weighing chamber meeting the specifications of § 86.1312–87 for stabilization.

(b) At the end of the stabilization period, weigh each filter on a balance having a precision of one microgram. This reading is the tare weight and must be recorded (see § 86.1344–87(e)(18)).

(c) The filter shall then be stored in a covered petri dish or a sealed filter holder, either of which shall remain in the weighing chamber until needed for testing.

(d) If the filter is not used within 1 hour of its removal from the weighing chamber, it must be re-weighed before use.

(e) After the emissions test, and after the sample and back-up filters have been returned to the weighing room after being used, they must be conditioned for at least 1 hour but not more than 80 hours and then weighed. This reading is the gross weight of the filter and must be recorded (See § 86.1344–87(e)(18)).

(f) The net weight of each filter is its gross weight minus its tare weight. Should the sample on the filter contact the petri dish or any other surface, the test is void and must be re-run.

(g) A ratio of net weights will be determined by the following formula:

$$\text{Ratio of Net Weights} = \frac{(\text{Net Weight})_{\text{Primary Filter}}}{(\text{Net Weight})_{\text{Primary Filter}} + (\text{Net Weight})_{\text{Back-up Filter}}}$$

(1) If the ratio of net weights is greater than 0.95, then P_f is the net weight of the primary filter only.

(2) If the ratio of net weights is less than or equal to 0.95, then P_f is the sum of the net weights of the primary filter and the back-up filter.

28. A new §86.1343–87 is proposed to be added to Subpart N, to read as follows:

§ 86.1342–87 Calculations; particulate exhaust emissions (diesels only).

(a) The final reported transient emission test results shall be computed by use of the following formula:

$$P_{WM} = \frac{1/7\ P_C + 6/7\ P_H}{1/7\ \text{BHP-hr}_C + 6/7\ \text{BHP-hr}_H}$$

Where:

(1) P_{WM} = Weighted mass particulate, grams per brake horsepower-hour.

(2) P_C = Mass particulate measured during the cold-start test, grams.

(3) P_H = Mass particulate measured during the hot-start test, grams.

(4) BHP-hr_C = Total brake horsepower-hour (brake horsepower integrated with respect to time) for the cold-start test.

(5) BHP-hr_H = Total brake horsepower-hour (brake horsepower integrated with respect to time) for the hot-start test.

(b) The mass of particulate for the cold-start test and the hot-start test is determined from the following equation when a heat exchanger is used (*i.e.*, no flow compensation):

$$P_{mass} = (V_{mix} + V_{sf}) \times \left(\frac{P_f}{V_{sf}} - \frac{P_{bf}}{V_{bf}} \right) \times (1 - 1/DF),$$

Where:

(1) P_{mass} = Mass of particulate emitted per test phase, grams per test phase. ($P_H = P_{mass}$ for the hot-start test and $P_C = P_{mass}$ for the cold-start test.

(2) V_{mix} = Total dilute exhaust volume corrected to standard conditions (528 °R (293 °K) and 760 mm Hg (101.3 kPa)), cubic feet per test phase. For a PDP-CVS:

$$V_{mix} = V_o \times \frac{N\ (P_B - P_A)\ (528\ ^\circ R)}{(760\ \text{mm Hg})\ (T_p)},$$

in SI units.

$$V_{mix} = V_o \times \frac{N(P_B - P_A)\ (293\ ^\circ K)}{(101.3\ \text{kPa})\ (T_p)},$$

Where:

(i) V_o = Volume of gas pumped by the positive displacement pump, cubic feet (cubic meters) per revolution. This volume is dependent on the pressure differential across the positive displacement pump.

(ii) N = Number of revolutions of the positive displacement pump during the test phase while samples are being collected.

(iii) B_B = Barometric pressure, mm Hg (kPa).

(iv) P_A = Pressure depressions below atmospheric measured at the inlet to the positive displacement pump (during an idle mode), mm Hg (kPa).

(v) T_p = Average temperature of dilute exhaust entering the positive displacement pump during test, °R (°K).

(3) V_{sf} = Total volume of sample removed from the primary dilution tunnel, cubic feet at standard conditions.

(i) For a single-dilution system:

$$V_{sf} = \frac{V_{as} \times (P_B + P_{is}) \times 528\ ^\circ R}{T_{is} \times 760\ \text{mm Hg}},$$

Where:

(A) V_{as} = Actual volume of dilute sample removed from the primary-dilution tunnel, cubic feet.

(B) P_B = Barometric presure, mm Hg.

(C) P_{is} = Pressure elevation above ambient measured at the inlet to the dilute exhaust sample gas meter or flow instrumentation, mm Hg. (For most gas meters or flow instruments with unrestriced discharge, P_{is} is negligible and can be assumed = 0.)

(D) T_{is} = Average temperature of the dilute exhaust sample at the inlet to the gas meter or flow instrumentation, °R.

(E) V_{sf} may require correction according to § 86.1320–87(a)(6).

(ii) For a double-dilution system:

$V_{sf} = V_{vf} - V_{pf}$,

Where:

(A)

$$V_{vf} = \frac{V_{av} \times (P_B + P_{iv} \times 528\ ^\circ R}{T_{iv} \times 760\ \text{mm Hg}}$$

(B) V_{av} = Actual volume of double diluted sample which passed through the particulate filter, cubic feet.

(C) P_B = Barometric pressure, mm Hg.

(D) P_{iv} = Pressure elevation above ambient measured at the inlet to the

sample gas meter located at the exit side of the secondary-dilution tunnel, mm Hg. (For must gas meters with unrestricted discharge P_{iv} is negligible and can be assumed=0.)

(E) T_{iv}=Average temperature of the dilute exhaust sample at the inlet to the exit side gas meter or flow instrumentation, °R.

(F)

$$V_{pf}=\frac{V_{ap}\times(P_a+P_{ip})\times 528\ ^\circ R}{T_{ip}\times 760\ mm\ Hg}$$

(G) V_{ap}=Actual volume of secondary dilution air, cubic feet.

(H) P_a=Baromtric pressure, mm Hg.

(I) P_{ip}=Pressure elevation above ambient measured at the inlet to the sample gas meter or flow instrumentation located at the inlet side of the secondary dilution tunnel, mm Hg. (For most gas meters with unrestricted discharge P_{ip} is negligible and can be assumed = 0.)

(J) T_{ip}=Average temperature of the dilute exhaust sample at the inlet to the inlet side gas meter or flow instrumentation, °R.

(K) Both V_{vf} and V_{pf} may require correction according to § 86.1320–87(a)(6). These corrections must be applied before V_{sf} is determined.

(4) P_f=Mass of particulate on the sample filter (or sample and back-up filters if the back-up filter is required to be included, see § 86.1339–87(g) for determination), grams per test phase.

(5) P_{bf}=Net weight of particulate on the background particulate filter, grams.

(6)

$$V_{bf}=\frac{V_{ab}\times(P_B+P_{ib})\times 528^\circ R}{T_{ib}\times 760\ mm\ Hg}$$

Where:

(i) V_{ab}=Actual volume of primary dilution air sampled by background particulate sampler, cubic feet.

(iii) P_{ib}=Pressure elevation above ambient measured at the inlet to the background gas meter or flow instrument, mm Hg. (For most gas meters or flow instruments with unrestricted discharge, P_{ib} is negligible and can be assumed = 0.)

(iv) T_{ib}=Average temperature of the background sample at the inlet to the gas meter or flow instrument, °R.

(7) For definition of DF see § 86.1342–84(d)(5).

29. A new § 86.1344–87 is proposed to be added to Subpart N, to read as follows:

§ 86.1344–87 Required information.

(a) The required test data shall be grouped into the following three general categories:

(1) *Engine set-up and descriptive data.* This data must be provided to the EPA supervisor of engine testing for each engine sent to the Administrator for confirmatory testing prior to the initiation of engine set-up. This data is necessary to ensure that EPA test personnel have the correct date in order to set up and test the engine in a timely and proper manner. This data is not required for tests performed by the manufacturers.

(2) *Pre-test data.* This data is general test data that must be recorded for each test. The data is of a more descriptive nature such as identification of the test engine, test site number, etc. As such, this data can be recorded at any time within 24 hours of the test.

(3) *Test-data.* This data is physical test data that must be recorded at the time of testing.

(b) All data may be supplied to the Administrator by punch cards, magnetic tape, or other electronic data processing means. Acceptable data formats and transmission techniques will be provided in the Application Format for Certification of the applicable model year.

(c) *Engine set-up data.* Because specific test facilities may change with time, the specific data parameters and number of items may vary. The Application Format for Certification for the applicable model year will specify the exact requirements. In general, the following types of data will be required:

(1) Engine manufacturer.

(2) Engine system combination.

(3) Engine code and CID.

(4) Engine identification number.

(5) Applicable engine model year.

(6) Engine fuel type.

(7) Recommended oil type.

(8) Exhaust pipe configuration, pipe sizes, etc.

(9) Curb or low idle speed.

(10) Dynamometer idle speed. (Automatic transmission engines only.)

(11) Engine parameter specifications such as spark timing, operating temperature, advance curves, etc.

(12) Engine performance data, such as maximum BHP, previously measured rated rpm, fuel consumption, governed speed, etc.

(13) Recommended start-up procedure.

(14) Maximum safe engine operating speed.

(15) Number of hours of operation accumulated on engine.

(16) Manufacturer's recommended inlet depression limit and typical in-use inlet depression level.

(17) Exhaust system.

(i) *Diesel engines.*

(A) Header pipe inside diameter.

(B) Tailpipe inside diameter.

(C) Minimum distance in-use between the exhaust manifold flange and the exit of the chassis exhaust system.

(D) Manufacturer's recommended maximum exhaust backpressure limit for the engine.

(E) Typical backpressure as determined by typical application of the engine.

(F) Minimum backpressure required to meet applicable noise regulations.

(ii) *Gasoline-fueled engines.* Typical in-use backpressure in vehicle exhaust system.

(d) *Pre-test data.* The following data shall be recorded, and reported to the Administrator for each test conducted for compliance with the provisions of 40 CFR Part 86, Subpart A:

(1) Engine-system combination.

(2) Engine identification.

(3) Instrument operator(s).

(4) Engine operator(s).

(5) Number of hours of operation accumulated on the engine prior to beginning the test sequence (Figure N84–10).

(6) Identification and specifications of test fuel used.

(7) Date of most recent analytical assembly calibration.

(8) All pertinent instrument information such as tuning, gain, serial numbers, detector number, calibration curve number, etc. As long as this information is traceable, it may be summarized by system number or analyzer identification numbers.

(e) *Test data.* The physical parameters necessary to compute the test results and ensure accuracy of the results shall be recorded for each test conducted for compliance with the provisions of 40 CFR Part 86, Subpart A. Additional test data may be recorded at the discretion of the manufacturer. Extreme details of the test measurements such as analyzer chart deflections will generally not be required on a routine basis to be reported to the Administrator for each test, unless a dispute about the accuracy of the data arises. The following types of data shall be required to be reported to the Administrator. The Application Format for Certification for the applicable model year will specify the exact requirements which may change slightly from year to year with the addition or deletion of certain itmes.

(1) Date and time of day.

(2) Test number.

(3) Engine intake air or test cell temperature.

(4) Barometric pressure. A central laboratory barometer may be used: *Provided,* that individual test cell barometic pressure are shown to be within ±0.1 percent of the barometric pressure at the central barometer location.

(5) Engine intake or test cell and CVS dilution air humidity.

(6) Maximum torque versus speed curve as determined in § 86.1332–84, with minimum and maximum engine speeds, and a description of the mapping technique used.

(7) Measured maximum horsepower and maximum torque speeds.

(8) Measured maximum horsepower and torque.

(9) Measured high idle engine speed (governed diesel engines only).

(10) Measured fuel consumption at maximum power and torque (diesel engines only).

(11) Cold-soak time interval and cool down procedures.

(12) Temperature set point of the heated continuous analysis system components (if applicable).

(13) Test cycle validation statistics as specified in § 86.1341–84 for each test phase (cold and hot).

(14) Total CVS flow rate with dilution factor for each test phase (cold and hot).

(15) Temperature of the dilute exhaust mixture and secondary dilution air (in the case of a double dilution system) at the inlet to the respective gas meter(s) or flow instrumentation used for particulate sampling (diesels only).

(16) The maximum temperature of the dilute exhaust mixture immediately before the particulate filter (diesels only).

(17) Sample concentrations (background corrected) for HC, CO, CO_2, and NO_x for each test phase (cold and hot).

(18) The stabilized per-test weight and post-test weight of each particulate sample and back-up filter (diesels only).3213

(19) Brake specific emissions (g/BHP-hr) for HC, CO and NO_x for each test phase (cold and hot).

(20) The weighted (cold and hot) brake specific emissions (g/BHP-hr) for the total test.

(21) The weighted (cold and hot) carbon balance or mass-measured brake specific fuel consumption for the total test.

(22) The number of hours of operation accumulated on the engine after completing the test sequences described in Figure N84–10.

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Part III

Environmental Protection Agency

40 CFR Part 300

Amendment to National Oil and Hazardous Substances Contingency Plan: The National Priorities List; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 300

[OSWER-FRL-2690-6]

Amendment to National Oil and Hazardous Substances Contingency Plan: The National Priorities List

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency ("EPA") is proposing the second update to the National Priorities List ("NPL"). The NPL is Appendix B to the National Oil and Hazardous Substances Contingency Plan ("NCP"), which EPA promulgated pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA") and Executive Order 12316. CERCLA requires that the NPL be revised at least annually, and today's notice proposes the second such revision.

DATES: Comments may be submitted on or before December 14, 1984.

ADDRESSES: Comments may be mailed to Russel H. Wyer, Director, Hazardous Site Control Division (NPL Staff), Office of Emergency and Remedial Response (WH–548E), Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460. The public docket for the update to the NPL will contain Hazard Ranking System (HRS) score sheets for all sites on this proposed update, as well as a "Documentation Record" for each site describing the information used to compute the scores. The main public docket is located in Room S–325 of Waterside Mall, 401 M Street, SW., Washington, D.C. 20460, and is available for viewing from 9:00 a.m. to 4:00 p.m., Monday through Friday, excluding holidays. Requests for copies of documents in the docket should be directed to EPA Headquarters, although the same documents will be available for viewing in the EPA Regional Offices. In addition, the background data relied upon by the Agency in calculating or evaluating HRS scores are retained only in the Regional Offices. Such data in EPA files may be obtained upon request. An informal written request, rather than a formal request under the Freedom of Information Act, should be the ordinary procedure for requesting these data sources. Addresses for the Regional Office dockets are:

Peg Nelson, Region I, U.S. EPA Library, John F. Kennedy Federal Bldg., Boston, MA 02203, 617/223–5791
Audrey Thomas, Region II, U.S. EPA Library, 26 Federal Plaza, 10th Floor, New York, NY 10278, 212/264–2881
Diane McCreary, Region III, U.S. EPA Library, Curtis Building, 6th & Walnut Streets, Philadelphia, PA 19106, 215/597–0580
Carolyn Mitchell, Region IV, U.S. EPA Library, 345 Courtland Street, NE, Atlanta, GA 30365, 404/881–4216
Lou Tilly, Region V, U.S. EPA Library, 230 South Dearborn Street, Chicago, IL 60604, 312/353–2022
Nita House, Region VI, U.S. EPA Library, First International Building, 1201 Elm Street, Dallas, TX 75270, 214/767–7341
Connie McKenzie, Region VII, U.S. EPA Library, 324 East 11th Street, Kansas City, MO 64106, 816/374–3497
Delores Eddy, Region VIII, U.S. EPA Library, 1860 Lincoln Street, Denver, CO 80295, 303/837–2560
Jean Circiello, Region IX, U.S. EPA Library, 215 Fremont Street, San Francisco, CA 94105, 415/974–8076
Julie Sears, Region X, U.S. EPA Library, 1200 6th Avenue, Seattle, WA 98101, 206/442–1289

FOR FURTHER INFORMATION CONTACT: Joseph R. Gearo, Jr., Hazardous Site Control Division, Office of Emergency and Remedial Response (WH–548–E), Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460, Phone (800) 424–9346 (or 382–3000 in the Washington, D.C., metropolitan area).

SUPPLEMENTARY INFORMATION:

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I. Introduction

Pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9601–9657 ("CERCLA" or "the Act"), and Executive Order 12316 (46 FR 42237, August 20, 1981), the Environmental Protection Agency ("EPA" or the "Agency") promulgated the revised National Contingency Plan ("NCP"), 40 CFR Part 300, on July 16, 1982 (47 FR 31180). Those amendments to the NCP implement the responsibilities and authorities created by CERCLA to respond to releases and threatened releases of hazardous substances, pollutants, and contaminants.

Section 105(8)(A) of CERCLA requires that the NCP include criteria for determining priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action and, to the extent practicable taking into account the potential urgency of such action, for the purpose of taking removal action. Removal action involves cleanup or other actions that are taken in response to emergency conditions or on a short-term or temporary basis (CERCLA Section 101 (23)). Remedial action tends to be long-term in nature and involves response actions which are consistent with a permanent remedy for a release (CERCLA Section 101(24)). Criteria for determining priorities are included in the Hazard Ranking System ("HRS"), which EPA promulgated as Appendix A of the NCP (47 FR 31219, July 16, 1982).

Section 105(8)(B) of CERCLA requires that these criteria be used to prepare a list of national priorities among the known releases or threatened releases throughout the United States, and that to the extent practicable at least 400 sites be designated individually. CERCLA requires that this National Priorities List ("NPL") be included as part of the NCP. Today, the Agency is proposing the addition of 238 sites to the NPL.

EPA is proposing to include on the NPL sites at which there are or have been releases or threatened releases of designated hazardous substances or of any "pollutant or contaminant." The discussion below may refer to "releases or threatened releases" simply as "releases," "facilities," or "sites."

II. Purpose of the NPL

The primary purpose of the NPL is stated in the legislative history of CERCLA (Report of the Committee on Environment and Public Works, Senate Report No. 96–848, 96th Cong., 2d. Sess. 60 (1980)):

> The priority lists serve primarily informational purposes, identifying for the States and the public those facilities and sites or other releases which appear to warrant remedial actions. Inclusion of a facility or site on the list does not in itself reflect a judgement of the activities of its owner or operator, it does not require those persons to undertake any action, nor does it assign liability to any person. Subsequent government action in the form of remedial actions or enforcement actions will be necessary in order to do so, and these actions will be attended by all appropriate procedural safeguards.

The purpose of the NPL, therefore, is primarily to serve as an informational tool for use by EPA in identifying sites that appear to present a significant risk to public health or the environment. The initial identification of a site on the NPL is intended primarily to guide EPA in determining which sites warrant further investigation designed to assess the nature and extent of the public health

and environmental risks associated with the site and to determine what CERCLA-financed remedial action(s), if any, may be appropriate. Inclusion of a site on the NPL does not establish that EPA necessarily will undertake remedial actions. Moreover, listing does not require any action of any private party, nor does it determine the liability of any party for the cost of cleanup at the site. In addition, a site need not be on the NPL to be the subject of CERCLA-financed removal actions or of actions brought pursuant to section 107(a)(4)(B) of CERCLA.

In addition, although the HRS scores used to place sites on the NPL may be helpful to the Agency in determining priorities for cleanup and other response activities among sites on the NPL, EPA does not rely on the scores as the sole means of determining such priorities, as discussed below. Neither can the HRS itself determine the appropriate remedy for a site. The information collected to develop HRS scores to select sites for the NPL is not sufficient in itself to determine the appropriate remedy for a particular site. After a site has been included on the NPL, EPA generally will rely on further, more detailed studies conducted at the site to determine what response, if any, is appropriate. These studies will take into account, among other things, response actions that have been taken by potential responsible parties or others. Decisions on the type and extent of action to be taken at these sites are made in accordance with the criteria contained in Subpart F of the NCP. After conducting these additional studies, EPA may conclude that it is not desirable to conduct response action at some sites on the NPL because of more pressing needs at other sites. Given the limited resources available in the Hazardous Substance Response Trust Fund established under CERCLA, the Agency must carefully balance the relative needs for response at the numerous sites it has studied. Also, it is possible that EPA will conclude after further analysis that no action is needed at a site because the site does not present a significant threat to public health, welfare or the environment.

III. NPL Update Process and Schedule

Pursuant to section 105(8)(B) of CERCLA, 42 U.S.C. 9605(8)(B), EPA is required to establish, as part of the NCP for responding to releases of hazardous substances, a NPL of sites of such releases. The principal purpose of this notice is to propose the addition of 238 new sites to the NPL which have HRS scores of 28.50 or above. In addition, the final NPL (49 FR 37070, September 21, 1984) is included to indicate the appropriate status codes for response and cleanup activities at these sites. These codes are explained in greater detail in section IV of this notice.

CERCLA requires that the NPL be revised at least once per year. Accordingly, EPA added 128 sites to the final NPL on September 21, 1984 (49 FR 37070). The majority (123) of those sites were proposed on September 8, 1983 (48 FR 40674) as the first update to the NPL. Today's notice proposes the second such revision, which the Agency expects to promulate within one year of this announcement. For each NPL revision, EPA informs the States of the closing dates for submission of candidate sites to EPA. In addition to these periodic updates, EPA believes it may be desirable in rare instances, because of urgency and needed corrective action, to propose separately the addition of individual sites on the NPL as it did in the case of the Times Beach, Missouri, (48 FR 9311, March 4, 1983).

As with the establishment of the initial NPL and subsequent revisions to the NPL, States have the primary responsibility for selecting and scoring sites that are candidates for inclusion on the NPL using the HRS (Appendix A to the NCP, 47 FR 31223, July 16, 1982) and submitting the candidate sites to the EPA Regional Offices. The Regional Offices then conduct a quality control review of the States' candidate sites. After conducting this review, the EPA Regional Offices submit candidate sites to EPA Headquarters. The Regions may include candidate sites in addition to those submitted by States. In reviewing these submissions, EPA Headquarters conducts further quality assurance audits to ensure accuracy and consistency among the various EPA and State offices participating in the scoring.

In today's proposal, the "Proposed Additions" consist of sites not currently on the NPL that the Agency is proposing to add to the NPL. The "Proposed Additions" are contained in the list immediately following this preamble. The additions are presented in two separate lists, non-Federal and Federal facility sites.

Public Comment Period

EPA requests public comment on each of the sites it is proposing to add to the NPL and will accept such comments for 60 days following the date of publication of this notice in the **Federal Register.** HRS scoring sheets and a "Documentation Record" for all sites proposed to be added to the NPL are available for inspection and copying in the NPL docket located in Washington, D.C. The same documents will be available for viewing in the EPA Regional offices for sites located in that particular Region. After considering the relevant comments received during the comment period and determining the final score for each proposed site, the Agency will add to the current NPL all sites that meet EPA's criteria for listing (i.e., sites with HRS scores at or above 28.50 or those designated as a State's top priority site).

IV. Contents of the Proposed Second NPL Update

Each entry on the proposed second NPL update contains the name of the facility, the State and city or county in which it is located, and the corresponding EPA Region. Each site EPA is proposing to add is placed by score in a group corresponding to the groups of 50 sites presented within the final NPL (49 FR 37070 September 21, 1984). Thus, the sites in group 1 of the proposed update have scores that fall within the range of scores covered by the first 50 sites on the final NPL. Each entry on this proposed update and at sites already on the NPL is accompanied by one or more notations referencing the status of response and cleanup activities at the site at the time this list was prepared. This site status and cleanup information are described briefly below.

In the past, EPA categorized the NPL sites based on the type of response at each site (Fund-financed, enforcement and/or voluntary action). This second NPL update will expand the prior categorization system in two ways. First, Federal enforcement actions are separated from State enforcement actions. Second, the status of site cleanup activities is designated by three new cleanup status codes. EPA is including the cleanup status codes to identify sites where significant response activities are underway or completed. The cleanup status codes on this NPL update are included in response to public requests for information regarding actual site cleanup activities.

Response Categories

The following response categories are used to designate the type of response underway. One or more categories may apply to each site.

Voluntary or Negotiated Response (V). Sites are included in this category if private parties have started or completed response actions pursuant to settlement agreements or consent decrees to which EPA or the State is a party. This category includes privately-financed remedial planning, removal actions, initial remedial measures and/or remedial actions.

Federal and/or State Response (R). The Federal and/or State Response category includes sites at which EPA or State agencies have started or completed response actions. These include removal actions, non-enforcement remedial planning, initial remedial measures, and/or remedial actions under CERCLA [NCP, § 300.66(f)–(i) 47 FR 31217, July 16, 1982]. For purposes of assigning a category, the response action commences when EPA obligates funds.

Federal Enforcement (F). This category includes sites where the United States has filed a civil complaint (including cost recovery actions) or issued an administrative order. It also includes sites at which a Federal court has mandated some form of response action following a judicial proceeding. All sites at which enforcement-lead remedial investigations and feasibility studies are underway are also included in this category.

A number of sites on the NPL are the subject of investigations or have been referred to the Department of Justice for possible enforcement action. EPA's policy is not to release information concerning a possible enforcement action until a lawsuit has been filed. Accordingly, these sites are not included in this category, but are included under "Category to be Determined."

State Enforcement (S). This category includes sites where a State has filed a civil complaint or issued an administrative order. It also includes sites at which a State court has mandated some form of response action following a judicial proceeding. Sites where State enforcement-lead remedial investigations and feasibility studies are underway are also included in this category.

It is assumed that State policy precludes the release of information concerning possible enforcement actions until such action has been formally taken. Accordingly, sites subject to possible State legal action are not included in this category, but are included under "Category to be Determined."

Category to be Determined (D). This category includes all sites not listed in any other category. A wide range of activities may be in progress at sites in this category. EPA or a State may be evaluating the type of response action to undertake, or an enforcement case may be under consideration. Responsible parties may be undertaking cleanup actions that are not covered by a consent decree or an administrative order.

Cleanup Status Codes

EPA has decided to indicate the status of Fund-financed or private party cleanup activities underway or completed at proposed NPL sites. Fund-financed response activities which are coded include: significant removal actions, initial remedial measures, source control remedial actions, and offsite remedial actions. The status of cleanup activities conducted by responsible parties under a consent decree, court order, or an administrative order also is coded. Remedial planning activities or engineering studies do not receive a cleanup status code.

Many sites listed on the NPL are cleaned up in stages or "operable units." For purposes of cleanup status coding, an operable unit is a discrete action taken as part of the entire site cleanup that significantly decreases or eliminates a release, threat of release, or pathway of exposure. One or more operable units may be necessary to complete the cleanup of a hazardous waste site. Operable units may include removal actions taken to stabilize deteriorating site conditions, initial remedial measures, and remedial actions. A simple removal action (constructing fences, or berms or lowering free-board) that does not eliminate a significant release, threat of release, or pathway of exposure is not considered an operable unit for purposes of cleanup status coding.

The following cleanup status codes (and definitions) are used to designate the status of cleanup activities at proposed sites on the NPL. Only one code is necessary to denote the status of actual cleanup activity at each site since the codes are mutually exclusive.

Implementation Activities Are Underway for One or More Operable Units (I). Field work is in progress at the site for implementation of one or more removal or remedial operable units, but no operable units are completed.

Implementation Activities for One or More (But Not All) Operable Units Are Completed. Implementation Activities May be Underway for Additional Operable Units (O). Field work has been completed for one or more operable units, but additional site cleanup actins are necessary.

Implementation Activities for all Operable Units Are Completed (C). All actions agreed upon for remedial action at the site have been completed and performance monitoring has commenced. The site will be considered for deletion from the NPL subsequent to completion of the performance monitoring and preparation of a deletion recommendation. Further site activities could occur if EPA considers such activities necessary.

V. Deleting Sites From the NPL

There is no specific statutory requirement that the NPL be revised to delete sites. However, EPA has decided to consider deleting sites to provide incentives for cleanup to private parties and public agencies. Furthermore, deleting sites allows the Agency to give notice that the sites have been cleaned up and gives the public an opportunity to comment on those actions.

EPA will delete a previously promulgated NPL site after EPA has determined that it has satisfied one or more of the following criteria:

(1) EPA, in consultation with the State, has determined that responsible parties have completed all appropriate response actions;

(2) EPA, in consultation with the State, has determined that all appropriate Fund-financed response actions have been completed and that no further cleanup by responsible parties is appropriate;

(3) Based on a remedial investigation, EPA, in consultation with the State, has determined that the facility poses no significant threat to public health, welfare, or the environment and, therefore, construction of remedial measures is not appropriate.

These criteria are the only deletion criteria EPA has developed to date. These criteria constitute guidance, not regulations. They may be revised or supplemented if experience indicates that other factors should be taken into account. At this time, however, it appears that these three criteria are adequate.

The Agency isssued a guidance memorandum on March 27, 1984, describing these criteria and interim procedures for deleting sites from the NPL. This document is available in the EPA dockets (see addresses section of this announcement). In deleting sites from the NPL, EPA will use the same **Federal Register** notice and comment procedures that were used for placing sites on the NPL.

The NCP currently restricts expenditures of Trust Fund monies to sites on the NPL. The Agency intends to modify the NCP to allow EPA to return to a site and expend Fund monies as warranted for operation and maintenance costs, continued monitoring, or correction of any failures of the remedy even though the site will have actually been deleted from the NPL. If sites are proposed for deletion before the NCP revisions have been promulgated, the Agency will establish a

"deletion category" for the NPL. This category will be explicitly denoted as containing sjtes at which the Agency has determined that one or more of the deletion criteria described above have been satisfied. However, these sites would not actually be deleted from the NPL. Once the NCP modifications are promulgated, the Agency will be able to delete a site from the NPL and spend additional Fund monies if conditions warrant.

The Agency is interested in the public reaction to these deletion procedures. Specifically, the Agency is interested in: (1) The desirability of maintaining the Federal Register notice and comment procedures for deletions that are currently used for placing sites on the NPL; and (2) the desirability of continuing to print, on a separate list, the names of sites deleted from the NPL at the time of each update. The Agency believes that including the names of deleted sites on the NPL may provide important information to the public on the final disposition of these sites and may result in favorable publicity for parties who have cleaned up sites on the NPL.

VI. Eligibility

CERCLA restricts EPA's authority to respond to certain categories of releases and expressly excludes some substances from the definition of release. In addition, as a matter of policy , EPA may or may not choose to respond to certain types of releases because other Federal agencies have adequate authority to respond. This section discusses the inclusion of such releases on the NPL.

Releases from Federal Facility Sites

CERCLA section 111(e)(3) prohibits use of the Funds for remedial actions at Federally owned facilities. Previously, EPA did not list any sites on the NPL where the release resulted solely from a Federal facility, regardless of whether contamination remained onsite or had migrated ofsite. EPA incorporated this position into the NCP (section 300.66(e)(2), 47 FR 31215, July 16, 1982); an also in the promulgation of the first NPL (48 FR 40662, September 8, 1983).

Public comments received from previously proposed NPL announcements suggested including Federal facilities, and the Agency now believes that it is appropriate to include Federal facility sites on the NPL when such facilities meet the criteria for inclusion. Federal facility sites will be listed when the HRS scores are equal to or above 28.50 so as to focus public attention and appropriate resources on the most serious sites, even though they are not eligible for Fund-financed remedial action.

For this update, Federal sites will be presented in a separate NPL section with Federal site displayed in scoring groups equivalent to the groups shown in the non-Federal NPL. As discussed in 48 FR 40662, September 8, 1984, EPA previously has listed sites that formerly were owned by the Federal government, and non-Federally owned sites where the Federal government may have contributed to a release. EPA intends to continue this policy by listing such site on the non-Federal NPL. The Federal facility section of the NPL will only contain sites where the release appears to result solely from a Federal facility, regardless of whether contamination remained on site or has migrated offsite.

Response categories and cleanup status codes also will be assigned for Federal facility sites, and these will be essentially the same categories and codes used for non-Federal sites. A Federal agency response at a Federal facility site will be indicated by the (R) category. When the (R) category does not apply to a Federal facility site, other Federal agency activities at that site, such as evaluating the appropriate response to undertake, will be indicated by the (D) category. Cleanup codes will be assigned to Federal facility sites in the same manner as they are to non-Federal sites.

EPA is preparing a proposed amendment in section 300.66(e)(2) of the NCP to allow the listing of Federal facility sites on the NPL. For this proposal, EPA scored those Federal facilities identified by Federal agencies and the States as NPL candidates where sufficient information existed to apply the HRS. However, EPA does not intend to promulgate any of the sites proposed today until such time as the NCP amendment is final. In the meantime, the Agency is continuing work with Federal agencies to investigate potential problem Federal sites and to implement corrective measures at Federal sites.

Releases of Pesticides Registered Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

This proposal includes six sites in South Central Oahu, Hawaii, where parts of the basal aquifer have been contaminated by pesticides including ethylene dibromide (EDB), dibromochloropropane (DBCP), and trichloropropane (TCP), a likely contaminant of the pesticide D-D (which contains 1,2-dichloropane, 1,3-dichloropene and related C3 compounds). These pesticides are all soil fumigants that have been used as nematocides in Oahu pineapple fields. All were registered under FIFRA at the time of their use in Oahu. We do not believe these pesticides are being used in Hawaii any longer. EDB's soil fumigation use has been cancelled, and EPA has proposed to cancel the sole remaining use of DBCP (pineapples) in the United States. D-D is no longer being produced, although it is still Federally registered. The most likely source of the contamination by DBCP and TCP was their use as pesticides, although it is less clear that the contamination by EDB resulted solely from its agricultural use.

These six sites are the first such sites proposed to be added to the NPL on the basis of releases which appear to originate from the application of pesticides. Insecticides and similar products are used extensively throughout the United States. The application of the HRS to public and private ground water systems throughout the country could possibly result in the listing of additional similar sites in a number of other States. At this time, however, the Agency has little data from which to predict the number of similar problems or the degree of risk posed by them, compared with the risks posed by other identified sites.

EPA is concerned that listing these sites may set important precedents with currently unknown implications for the future direction of CERCLA. As CERCLA's scope is broad, EPA wants to insure that its efforts under CERCLA are focused on the most significant risks and on problems that cannot be adequately addressed under EPA's other statutory authorities. Therefore, the Agency is interested in public comment for consideration in evaluating what alternative statutory tools or other approaches are most appropriate for dealing with these problems. Other approaches on which EPA wants to receive comment are those which would assure that only sites posing significant problems are included on the NPL. EPA plans to consider these issues. If the Agency decides that problems arising from pesticide use are better addressed outside the frame-work of CERCLA, it may decide as a matter of policy not to list the sites on the NPL.

EPA is planning a monitoring survey to evaluate the frequency and severity of contamination of ground water by pesticides. In addition, the Agency has initiated a special data call-in under FIFRA to evaluate the potential for ground water contamination of many pesticides. Pending the results of these information gathering efforts, the extent of this problem is not fully understood.

EPA has the authority to include sites on the NPL where contamination from

pesticide application has occurred (or has the potential to occur). The definition of "release" in section 101(22) of CERCLA is very broad; and whereas it excludes the "normal application of a fertilizer," it does not contain a similar exclusion for the application of pesticides. Additional review of CERCLA gives no suggestion that EPA authority to list such pesticide sites on the NPL or to take response action is limited. Section 107(i) limits EPA's ability to recover costs from releases associated with pesticide use, but CERCLA does not contain a similar limitation on EPA's ability to respond. Thus, there is no statutory restriction on the use of money from the CERCLA Trust Fund to clean up sites where public health or the environment has been threatened as a result of the application of pesticides. At the same time the Agency is not obliged to exercise response authority whenever a site is included on the NPL.

There are several legal authorities by which the hazards associated with contamination of ground water by pesticide use can be addressed; CERCLA enforcement actions and some CERCLA response actions, as well as actions under other laws, do not depend on a site's placement on the NPL. For example, FIFRA provides authority to require manufacturers to submit test results with which the Agency can evaluate hazards, including health effects and environmental fate and transport. FIFRA also provides authority to limit or prohibit use of pesticides when the risk associated with use outweigh the benefits of use. Under the Safe Drinking Water Act, EPA can issue health advisories or specify maximum contaminant limits in public water systems.

CERCLA authorizes Fund-financed response actions such as cleaning up acquifers or providing alternate drinking water supplies. Certain response actions taken with CERCLA trust fund money, however, are authorized only where a site has been listed on the NPL. While listing a site on the NPL is necessary to take these actions, it does not require them. After a site has been included on the NPL, EPA generally will rely on further, more detailed studies conducted at the site to determine what response, if any, is appropriate. The authority to compel private responsible parties to abate or clean up releases of pollutants and contaminants provided by CERCLA is not limited to sites listed on the NPL.

Releases From Sites Having Interim Status or Permits Under the Resource Conservation and Recovery Act (RCRA)

As stated in EPA's first NPL final rulemaking (48 FR 40658, September 8, 1983), both CERCLA and the Resource Conservation and Recovery Act (RCRA) contain authorities applicable to hazardous waste facilities. These authorities overlap for certain sites. EPA is adhering to its established policy that, where a site consists only of "regulated units" of a RCRA facility operating pursuant to a permit or interim status, it will not be included on the NPL but, to the extent possible, instead will be addressed under the authorities of RCRA. The RCRA Land Disposal Regulations (40 CFR Parts 122, 260, 264, and 265) give EPA authority to control actives sites through a broad program which includes monitoring, compliance inspections, penalties for violations, and requirements for post-closure plans and financial responsibility.

RCRA regulations require a contingency plan for each facility. The regulations also contain groundwater protection standards (40 CFR Part 264, Subpart F) that cover detection monitoring, compliance monitoring (if groundwater impacts are identified) and corrective action for releases within the site boundaries. These monitoring and corrective action standards apply to all "regulated units" of RCRA facilities, i.e., any part of the waste treatment, storage, or disposal operation within the boundaries of the facility that accepted waste after January 26, 1983, the effective date of the Land Disposal Regulations (47 FR 32349, July 26, 1982). Even if the unit ceases operation after this time, EPA has the authority to require it to obtain a permit, and the monitoring and corrective action requirements could therefore be enforced by this mechanism.

Given this authority to ensure cleanup of regulated units of RCRA facilities, such facilities generally are not included on the NPL. If the facility is abandoned or lacks sufficient resources and the RCRA corrective action requirements cannot be enforced, however, EPA will consider listing the site on the NPL for possible response under CERCLA. This policy is applicable not only to sites subject to EPA-administered hazardous waste programs but also to sites in States that administer programs approved by EPA. Even in the latter instance, close Federal control is ensured by the comprehensivenes of the program elements required of all State programs coupled with EPA's authority to enforce State program requirements directly if the State fails to do so. EPA does, however, consider eligible for listing on the NPL those RCRA facilities at which a significant portion of the release appears to come from "non-regulated units" of the facility, that is, portions of the facility that ceased operation prior to January 26, 1983. However, pending amendments to RCRA would extend RCRA jurisdiction to releases from non-regulated units at regulated facilities. Therefore, if the amendments are enacted, the Agency will consider modifying the existing policy of including such sites on the NPL at that time.

VII. Regulatory Impact Analysis

The costs of cleanup actions that may be taken at sites are not directly attributable to listing on the NPL, as explained below and therefore, the Agency has determined that this rulemaking is not a "major" regulation under Executive Order 12291. The EPA has conducted a preliminary analysis of the economic implications of today's proposed amendment to the NCP. The EPA believes that the kind of economic effects associated with this revision are generally similar to those effects identified in the regulatory impact analysis (RIA) prepared in 1982 for the revisions to the NCP pursuant to section 105 of CERCLA. The Agency believes the anticipated economic effects related to proposing the addition of 244 sites to the NPL can be characterized in terms of the conclusions of the earlier regulatory impact analysis. At that time, the Agency noted that a more extensive analysis of the economic impacts of the NCP would be prepared in the future and would accompany publication of future major amendments to the NCP. The Agency expects to propose major amendments to the NCP in the future and a more comprehensive economic analysis will be made available for comment at that time.

Costs

The EPA has determined that this proposed rulemaking is not a "major" regulation under Executive Order 12291 because inclusion of a site on the NPL does not itself impose any costs. It does not establish that EPA will necessarily undertake response action, nor does it require any action by a private party or determine its liability for site response costs. Costs that arise out of site response result from site-by-site decisions about what actions to take, not directly from the act of listing itself. Nonetheless, it is useful to consider the costs associated with responding to all sites included in a listing proposed rulemaking. This action was submitted

to the Office of Management and Budget (OMB) for review.

The major events that follow the proposed listing of a site on the NPL are a responsible party search and a Remedial Investigation/Feasibility Study (RI/FS) which determines whether response actions will be undertaken at a site. Design and construction of the selected remedial alternative follow completion of the RI/FS, and operation and maintenance (O&M) activities may continue after construction has been completed.

Costs associated with responsible party searches are initially borne by EPA. Responsible parties may bear some or all the costs of the RI/FS, design and construction, and O&M, or the costs may be shared by EPA and the States on a 90%:10% basis (50%:50% in the case of State-owned sites). Additionally, States assume all costs for O&M activities after the first year at sites involving Fund-financed remedial actions.

Rough estimates of the average per-site and total costs associated with each of the above activities are presented below. At this time EPA is unable to predict what portions of the total costs will be borne by responsible parties, since the distribution of costs depends on the extent of voluntary and negotiated response and the successfulness of cost recovery actions where such actions are brought.

Cost category	Average total cost per site [1]
RI/FS	$800,000
Remedial Design	440,000
Remedial Action	7,200,000
Initial Remedial Measures (IRM) at 10% of sites	80,000
Net Present Value of O&M (over 30 years)	4,100,000

[1] 1984 U.S. Dollars.

Source: OERR budget figures (assumes $6.5 million Federal share for remedial action).

Costs to States associated with today's proposed amendment arise from the statutory State cost-share requirement of: (1) 10 percent of remedial implementation (remedial action and IRM) and O&M costs at privately-owned sites; and (2) 50 percent of the remedial planning (RI/FS and remedial design), remedial implementation and O&M costs at State or locally-owned sites. Using the assumptions developed in the 1982 RIA, we can assume that 90 percent of the 208 non-Federal sites proposed to be added to the NPL in this amendment will be privately-owned and 10 percent will be State or locally-owned. Therefore, using the budget projections presented above, the cost to States of undertaking Federal remedial actions at all 208 non-Federal sites would be $344 million.

The act of listing a hazardous waste site on the final NPL does not necessarily cause firms responsible for the site to bear costs. Nonetheless, a listing may induce firms to clean up the sites voluntarily, or it may act as a potential trigger for subsequent enforcement or cost recovery actions. Such actions may impose costs on firms, but the decisions to take such actions are discretionary, and made on a case-by-case basis. Consequently, precise estimates of these effects cannot be made. EPA does not believe that every site will be cleaned up by a responsible party. EPA cannot project at this time which firms or industry sectors will bear specific portions of response costs, but the Agency considers such factors as: the volume and nature of the wastes contributed; the strength of the evidence linking the wastes at the site to the parties; ability to pay; and other factors when deciding whether and how to proceed against potentially responsible parties.

Economy-wide effects of this proposed amendment are aggregations of effects on firms and State and local governments. Although effects could be felt by some individual firms and States, the total impact of this revision on output, prices, and employment is expected to be negligible at the national level, as was the case in the 1982 RIA.

Benefits

The real benefits associated with today's proposed amendment come in the form of increased health and environmental protection as a result of increased public awareness of potential hazards and the additional response actions at hazardous waste sites. In addition to the potential for more Federally-financed remedial actions, this proposed expansion of the NPL could accelerate privately-financed, voluntary cleanup efforts to avoid potential adverse publicity, private lawsuits, and/or Federal or State enforcement actions.

As a result of the additional NPL remedies, there will be lower human exposure to high risk chemicals, and higher quality surface water, ground water, soil, and air. The magnitude of these benefits is expected to be significant, although difficult to estimate in advance of completing the RI/FS at these particular sites.

Associated with the costs of remedial actions are significant potential benefits and cost offsets. The distributional costs to firms of financing NPL remedies have corresponding "benefits" in that Funds expended for a response generates employment, directly or indirectly (through purchased materials).

VIII. Regulatory Flexibility Act Analysis

The Regulatory Flexibility Act of 1980 requires EPA to review the impacts of this action on small entities, or certify that the action will not have a significant impact on a substantial number of small entities. By small entities the Act refers to small businesses, small governmental jurisdictions, and non-profit organizations.

While proposed modifications to the NPL are considered revisions to the NCP, they are not typical regulatory changes since the revisions do not automatically impose costs. The proposed listing of sites on the NPL does not in itself require any action of any private party, nor does it determine the liability of any party for the cost of cleanup at the site. Further, no identifiable groups are affected as a whole. As a consequence, it is hard to predict impacts on any group. A site's proposed inclusion on the NPL could increase the likelihood that adverse impacts to responsible parties (in the form of clean-up costs) will occur, but EPA cannot identify the potentially affected businesses at this time nor estimate a number of businesses affected. In addition, we cannot define what is "small" for the wide variety of potentially affected small entities. Because small entities that could be affected by this rulemaking would come from any industrial sector and could include governmental units, it is not possible to articulate a meaningful definition of small entities.

The Agency does expect that certain industries and firms within industries that have caused a proportionately high percentage of waste site problems could be significantly affected by CERCLA actions. However, EPA does not expect the impacts from the proposed listing of these 238 sites, or the NPL as a whole, to have a significant economic impact on small business as a whole.

In any case, economic impacts would only occur through enforcement and cost recovery actions which are taken at EPA's discretion on a site-by-site basis. EPA considers many factors when determining what enforcement actions to take, including not only the firm's contribution to the problem, but also the firm's ability to pay. The impacts (from cost-recovery) on small governments and non-profit organizations would be determined on a similar case-by-case basis.

List of Subjects in 40 CFR Part 300

Air pollution control, Chemicals, Hazardous materials, Intergovernmental

relations, Natural resources, Oil pollution, Reporting and recordkeeping requirements, Superfund, Waste treatment and disposal, Water pollution control, Water supply.

PART 300—[AMENDED]

It is proposed to amend Appendix B of 40 CFR Part 300 by adding the following sites to the National Priorities List:

Dated: October 2, 1984.

William D. Ruckelshaus,

Administrator.

NATIONAL PRIORITIES UPDATE LIST
GROUP 1

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
08	UT	Sharon Steel (Midvale Smelter)	Midvale	D	
08	UT	Portland Cement (Kiln Dust 2 & 3)	Salt Lake City	D	

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NATIONAL PRIORITIES UPDATE LIST
GROUP 2

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
04	FL	Peak Oil Co./Bay Drum Co.	Tampa	S	
05	OH	Industrial Excess Landfill	Uniontown	D	

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NATIONAL PRIORITIES UPDATE LIST
GROUP 3

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
10	WA	Midway Landfill	Kent	D	
06	TX	Bailey Waste Disposal	Bridge City	D	
05	MI	Thermo-Chem, Inc.	Muskegon	D	
09	CA	Van Waters & Rogers, Inc.	San Jose	D	
05	MN	Pine Bend/Crosby American Lf	Dakota County	D	
07	IA	Chemplex Co.	Clinton/Camanche	D	
04	NC	NC State U (Lot 86, Farm Unit #1)	Raleigh	D	

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NATIONAL PRIORITIES UPDATE LIST
GROUP 4

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
05	OH	General Electric(Coshocton Plant)	Coshocton	D	
02	NY	Liberty Industrial Finishing	Farmingdale	D	
06	TX	Brio Refining Co., Inc.	Friendswood	D	
02	NJ	Glen Ridge Radium Site	Glen Ridge	R	O
02	NJ	Montclair/West Orange Radium Site	Montclair/W Orange	R	O
04	NC	Celanese(Shelby Fiber Operations)	Shelby	D	
05	IN	International Minerals (E. Plant)	Terre Haute	D	
05	MI	Motor Wheel, Inc.	Lansing	D	
06	TX	Stewco, Inc.	Waskom	D	
05	OH	Alsco Anaconda	Gnadenhutten	D	
02	NY	Johnstown City Landfill	Town of Johnstown	D	
03	PA	Hunterstown Road	Straban Township	V F	O
02	NY	Hooker Chemical/Ruco Polymer Corp	Hicksville	D	
07	NE	Lindsay Manufacturing Co.	Lindsay	V S	O
09	CA	Operating Industries, Inc. Lf	Monterey Park	S	
04	FL	Pratt & Whitney Air/United Tech.	West Palm Beach	D	
08	CO	Eagle Mine	Minturn/Redcliff	R	

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NATIONAL PRIORITIES UPDATE LIST
GROUP 5

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
07	MO	Lee Chemical	Liberty	R	I
05	MI	Torch Lake	Houghton County	D	
01	RI	Central Landfill	Johnston	F	
03	PA	Domino Salvage Yard	Valley Township	V R S	O
08	UT	Mayflower Mountain Tailings Ponds	Wasatch County	D	
03	WV	Mobay Chemical (New Martinsville)	New Martinsville	D	
03	PA	Whitmoyer Laboratories	Jackson Township	D	
03	PA	Shriver's Corner	Straban Township	V F	O
03	VA	Culpeper Wood Preservers, Inc.	Culpeper	F S	
05	MN	U of Minnesota Rosemount Res Cent	Rosemount	D	
04	MS	Newsom Brothers/Old Reichhold	Columbia	R	O
02	NY	Tronic Plating Co., Inc.	Farmingdale	D	
02	NJ	Waldick Aerospace Devices, Inc.	Wall Township	S	
08	CO	Smuggler Mountain	Aspen	D	
09	CA	Alviso Dumping Areas	Alviso	D	
10	OR	Martin-Marietta Aluminum Co.	The Dalles	D	
08	CO	Uravan Uranium (Union Carbide)	Uravan	D	
05	MN	Oak Grove Sanitary Landfill	Oak Grove Township		

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NATIONAL PRIORITIES UPDATE LIST
GROUP 6

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#		CLEANUP STATUS @
10	WA	Quendall Terminal	Renton		D	
05	IN	Fort Wayne Reduction Dump	Fort Wayne		D	
05	IL	Pagel's Pit	Rockford		D	
03	MD	Mid-Atlantic Wood Preservers, Inc	Harmans	V	S	O
07	NE	Hastings Ground Water Contamin	Hastings		D	
05	MN	Kummer Sanitary Landfill	Bemidji	R		
09	HI	Mililani Wells	Oahu		D	
09	CA	Monolithic Memories, Inc.	Sunnyvale		D	
06	TX	Odessa Chromium #1	Odessa		D	
06	TX	Odessa Chromium #2 (Andrews Hgwy)	Odessa		D	
09	CA	San Fernando Valley (Area 1)	Los Angeles		D	
09	CA	San Fernando Valley (Area 2)	Los Angeles/Glendale		D	
09	CA	San Fernando Valley (Area 3)	Glendale		D	
09	CA	Teledyne Semiconductor	Mountain View		D	
09	CA	Thompson-Hayward Chemical Co.	Fresno		S	
09	HI	Waiawa Shaft	Oahu		D	
04	NC	Jadco-Hughes Facility	Belmont		D	
02	NY	Applied Environmental Services	Glenwood Landing		S	
09	AZ	Motorola, Inc.(52nd Street Plant)	Phoenix		D	

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NATIONAL PRIORITIES UPDATE LIST
GROUP 7

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
07	MO	Quality Plating	Sikeston	D	
05	MI	Roto-Finish Co., Inc.	Kalamazoo	D	
10	WA	Toftdahl Drums	Brush Prairie	D	
09	CA	Westinghouse (Sunnyvale Plant)	Sunnyvale	D	
02	NY	Nepera Chemical Co., Inc.	Maybrook	D	
09	CA	FMC Corp. (Fresno Plant)	Fresno	D	
03	VA	IBM Corp. (Manassas Plant Spill)	Manassas	D	
09	HI	Kunia Wells I	Oahu	D	
09	HI	Kunia Wells II	Oahu	D	
02	NY	Pasley Solvents & Chemicals, Inc.	Hempstead	D	
06	TX	Sol Lynn/Industrial Transformers	Houston	D	
09	HI	Waipahu Wells	Oahu	D	
07	KS	National Industrial Environ Serv	Furley	S	
05	IL	Kerr-McGee (Reed-Keppler Park)	West Chicago	D	
05	IL	Kerr-McGee (Kress Creek)	DuPage County	D	
09	CA	Southern Pacific Transportation	Roseville	S	
06	TX	South Cavalcade Street	Houston	D	
05	WI	National Presto Industries, Inc.	Eau Claire	D	
05	IL	Petersen Sand & Gravel	Libertyville	R	
08	MT	Idaho Pole Co.	Bozeman	D	
07	MO	Findett Corp.	St. Charles	V F	I
05	MN	Windom Dump	Windom	D	
05	IL	Kerr-McGee (Residential Areas)	West Chicago	D	
05	IL	NL Industries/Taracorp Lead Smelt	Granite City	V F S	
05	MI	E.I. Du Pont (Montague Plant)	Montague	D	

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NATIONAL PRIORITIES UPDATE LIST
GROUP 8

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
09	CA	Advanced Micro Devices, Inc.	Sunnyvale	S	
04	NC	Bypass 601 Ground Water Contam.	Concord	D	
02	NJ	Cinnaminson Ground Water Contam	Cinnaminson Township	D	
05	MI	Lenawee Disposal Service, Inc. Lf	Adrian	D	
09	CA	Raytheon Corp.	Mountain View	D	
07	MO	Solid State Circuits, Inc.	Republic	R S	I
07	NE	Waverly Ground Water Contamin	Waverly	D	
05	MI	Michigan Disposal (Cork St Lf)	Kalamazoo	D	
09	CA	Fairchild Camera (S San Jose Plt)	South San Jose	D	
03	PA	Brown's Battery Breaking	Shoemakersville	R	C
02	NY	SMS Instruments, Inc.	Deer Park	D	
02	NY	Byron Barrel & Drum	Byron	R	I
02	NY	Anchor Chemicals	Hicksville	D	
05	MI	Waste Management-Mich (Holland)	Holland	D	
06	TX	North Cavalcade Street	Houston	D	
08	MT	Burlington Northern(Somers Plant)	Somers	D	
05	IN	Neal's Dump (Spencer)	Spencer	F S	
03	PA	Westinghouse Elevator Co. Plant	Gettysburg	D	O
03	PA	Middletown Air Field	Middletown	D	I
03	WV	Ordnance Works Disposal Areas	Morgantown	D	O
02	NY	Endicott Village Well Field	Village of Endicott	D	
09	CA	National Semiconductor Corp.	Santa Clara	D	
09	CA	San Fernando Valley (Area 4)	Los Angeles	D	
02	NY	Suffern Village Well Field	Village of Suffern	D	

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NATIONAL PRIORITIES UPDATE LIST
GROUP 9

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
03	VA	Avtex Fibers, Inc.	Front Royal	D	
02	NY	Katonah Municipal Well	Town of Bedford	D	
09	HI	Waipio Heights Wells II	Oahu	D	
04	TN	American Creosote Works, Inc.	Jackson	R	O
05	IL	Kerr-McGee (Sewage Treat Plant)	West Chicago	D	
02	NY	Preferred Plating Corp.	Farmingdale	D	
08	UT	Monticello Rad Contaminated Props	Monticello	D	
01	MA	Salem Acres	Salem	D	
04	FL	Davidson Lumber Co.	South Miami	S	O
09	CA	J.H. Baxter Co.	Weed	S	
10	WA	Mica Landfill	Mica	D	
02	NY	Clothier Disposal	Town of Granby	D	
03	PA	Ambler Asbestos Piles	Ambler	V R F S	O
03	VA	L.A. Clarke & Son	Spotsylvania County	S	
05	IL	Sheffield (U.S. Ecology, Inc.)	Sheffield	D	
09	CA	Beckman Instruments (Porterville)	Porterville	D	
05	MI	Lacks Industries, Inc.	Grand Rapids	D	
03	MD	Southern Maryland Wood Treating	Hollywood	D	
04	FL	Dubose Oil Products Co.	Cantonment	S	
09	CA	Lorentz Barrel & Drum Co.	San Jose	S	
03	PA	Modern Sanitation Landfill	Lower Windsor Twp	D	
05	MI	North Bronson Industrial Area	Bronson	D	
09	CA	Montrose Chemical Corp.	Torrance	F	
10	WA	Northwest Transformer	Everson	D	
08	UT	Olson/Neihart Reservoir	Wasatch County	D	
02	NY	North Sea Municipal Landfill	North Sea	D	
09	CA	Louisiana-Pacific Corp.	Oroville	D	
05	MI	South Macomb Disposal (Lf 9 & 9A)	Macomb Township	D	

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NATIONAL PRIORITIES UPDATE LIST
GROUP 10

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
05	MN	Adrian Municipal Well Field	Adrian	S	
02	NY	Haviland Complex	Town of Hyde Park	D	
02	NY	Hertel Landfill	Plattekill	D	
09	CA	Marley Cooling Tower Co.	Stockton	D	
05	MN	Olmsted County Sanitary Landfill	Oronoco	D	
07	KS	Strother Field Industrial Park	Cowley County	R	I
02	NJ	Fried Industries	East Brunswick Twp	D	
02	NY	Goldisc Recordings, Inc.	Holbrook	D	
02	NJ	Lodi Municipal Well	Lodi	D	
02	NY	Sarney Farm	Amenia	D	
01	MA	Rose Disposal Pit	Lanesboro	F S	
05	OH	Van Dale Junkyard	Marietta	S	
02	NY	FMC Corp. (Dublin Road Landfill)	Town of Shelby	V	
02	NY	Volney Municipal Landfill	Town of Volney	V	
04	KY	Smith's Farm	Brooks	R	O
07	KS	Big River Sand Co.	Witchita	V S	O
05	WI	Stoughton City Landfill	Stoughton	D	
06	TX	Crystal City Airport	Crystal City	D	
02	NY	Cortese Landfill	Vil of Narrowsburg	S	
04	FL	City Industries, Inc.	Orlando	R F S	O
09	CA	Applied Materials	Santa Clara	D	
09	CA	Fairchild Camera (Mountain View)	Mountain View	D	
09	CA	Intel Corp. (Mountain View Plant)	Mountain View	D	
09	CA	Intel Corp. (Santa Clara III)	Santa Clara	D	
09	CA	Intel Magnetics	Santa Clara	D	
05	MN	Long Prairie Ground Water Contam	Long Prairie	D	
02	NJ	Pomona Oaks Residential Wells	Galloway Township	D	
09	CA	Precision Monolithic, Inc.	Santa Clara	D	
05	OH	Sanitary Landfill Co. (IWD)	Dayton	D	
09	CA	Signetics, Inc.	Sunnyvale	S	
02	NY	Kenmark Textile Corp.	Farmingdale	D	
04	KY	Maxey Flats Nuclear Disposal	Hillsboro	R	O

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NATIONAL PRIORITIES UPDATE LIST
GROUP 10 (CON'T)

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
08	MT	Mouat Industries	Columbus	D	
02	NY	Claremont Polychemical	Old Bethpage	V	
07	IA	Vogel Paint & Wax Co.	Orange City	S	I
05	MN	Kurt Manufacturing Co.	Fridley	D	
06	TX	Koppers Co., Inc. (Texarkana Plt)	Texarkana	D	
05	MN	Agate Lake Scrapyard	Fairview Township	D	
05	MI	Avenue "E" Ground Water Contamin	Traverse City	S	I
02	NJ	Jame Fine Chemical	Bound Brook	D	
05	MN	Koch Refining Co./N-Ren Corp.	Pine Bend	D	
07	IA	U.S. Nameplate Co.	Mount Vernon	D	
05	WI	Fadrowski Drum Disposal	Franklin	D	
09	CA	Zoecon Corp/Rhone-Poulenc, Inc.	East Palo Alto	S	
06	AR	Midland Products	Ola/Birta	D	
02	NY	BEC Trucking	Town of Vestal	D	
02	NY	Robintech, Inc./National Pipe Co.	Town of Vestal	D	

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NATIONAL PRIORITIES UPDATE LIST
GROUP 11

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
03	VA	Rhinehart Tire Fire Dump	Frederick County	V R F	O
01	MA	Haverhill Municipal Landfill	Haverhill	D	
02	NY	Colesville Municipal Landfill	Town of Colesville	D	
09	CA	Firestone Tire (Salinas Plant)	Salinas	D	
05	IN	MIDCO II	Gary	R F	I
03	MD	Kane & Lombard Street Drums	Baltimore	R	O
10	WA	Silver Mountain Mine	Loomis	D	
06	TX	Petro-Chemical (Turtle Bayou)	Liberty County	D	
05	OH	Republic Steel Corp. Quarry	Elyria	D	
09	CA	Hewlett Packard	Palo Alto	D	
01	MA	Shpack Landfill	Norton/Attleboro	D	
04	FL	Montco Research Products, Inc.	Hollister	S	
01	MA	Norwood PCBs	Norwood	R	
01	NH	Coakley Landfill	North Hampton	S	
09	CA	IBM Corp. (San Jose Plant)	San Jose	D	
07	MO	North-U Drive Well Contamination	Springfield	R	I
10	WA	Northside Landfill	Spokane	D	
06	TX	Pesses Chemical Co.	Fort Worth	D	
07	MO	Bee Cee Manufacturing Co.	Malden	D	

TOTAL SITES LISTED: 208

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 1

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
08	CO	Rocky Flats Plant (USDOE)	Golden	R	O
05	IL	Sangamo/Crab Orchard NWR (USDOI)	Carterville	R	

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 2

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
04	TN	Milan Army Ammunition Plant	Milan	R	I
08	CO	Rocky Mountain Arsenal	Adams County	R	O
09	CA	McClellan AFB (Ground Water Cont)	Sacramento	R	I

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 3

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
07	MO	Weldon Spring Quarry (USDOE/ARMY)	St. Charles County	R	
04	AL	Anniston Army Depot (SE Ind Area)	Anniston	R	O
04	GA	Robins Air Force Base	Houston County	R	

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 4

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
07	NE	Cornhusker Army Ammunition Plant	Hall County	R	O
08	UT	Hill Air Force Base	Ogden	R	O

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 5

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
08	UT	Ogden Defense Depot	Ogden	R	
09	CA	Sacramento Army Depot	Sacramento	R	
01	ME	Brunswick Naval Air Station	Brunswick	R	
10	WA	McChord AFB (Wash Rack/Treatment)	Tacoma	R	

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 6

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
10	WA	Fort Lewis (Landfill No. 5)	Tacoma	D	
09	CA	Lawrence Livermore Lab (USDOE)	Livermore	R	O
09	CA	Sharpe Army Depot	Lathrop	R	
05	IL	Savanna Army Depot Activity	Savanna	R	

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 7

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
06	TX	Air Force Plant #4 (Gen Dynamics)	Fort Worth	R	
09	CA	Norton Air Force Base	San Bernardino	R	
08	UT	Tooele Army Depot (North Area)	Tooele	R	

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 8

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
09	CA	Castle Air Force Base	Merced	R	I
02	NJ	Fort Dix (Landfill Site)	Trenton	R	
02	NJ	Naval Weapons Stat Earle (Site A)	Colts Neck	R	
04	AL	Alabama Army Ammunition Plant	Childersburg	R	O
03	DE	Dover Air Force Base	Dover	D	

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 9

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
03	PA	Letterkenny Army Depot (SE Area)	Chambersburg	R	O
02	NY	Griffiss Air Force Base	Rome	R	
03	VA	Defense General Supply Center	Chesterfield County	R	I

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 10

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
07	MO	Lake City Army Plant (NW Lagoon)	Independence	R	I
05	IL	Joliet Army Ammo Plant (Mfg Area)	Joliet	R	O
06	TX	Lone Star Army Ammunition Plant	Texarkana	R	
10	OR	Umatilla Army Depot Lagoons	Hermiston	R	

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 11

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
06	LA	Louisiana Army Ammunition Plant	Doyline	R	
10	WA	Bangor Ordnance Disposal	Bremerton	R	
09	CA	Mather AFB (AC&W Disposal Site)	Sacramento	R	

TOTAL SITES LISTED: 36

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The following list of final NPL (49 FR 37070 September 21, 1984) indicates the appropriate status codes for response and cleanup activities at these sites.

NATIONAL PRIORITIES LIST FINAL SITES - GROUP 1

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
1	02	NJ	Lipari Landfill	Pitman	R F	O
2	03	DE	Tybouts Corner Landfill *	New Castle County	V R F	
3	03	PA	Bruin Lagoon	Bruin Borough	R	I
4	02	NJ	Helen Kramer Landfill	Mantua Township	R	
5	01	MA	Industri-Plex	Woburn	V R	I
6	02	NJ	Price Landfill *	Pleasantville	R F	O
7	02	NY	Pollution Abatement Services *	Oswego	R F	O
8	07	IA	LaBounty Site	Charles City	V F S	O
9	03	DE	Army Creek Landfill	New Castle County	V F	
10	02	NJ	CPS/Madison Industries	Old Bridge Township	S	
11	01	MA	Nyanza Chemical Waste Dump	Ashland	R	
12	02	NJ	Gems Landfill	Gloucester Township	R	I
13	05	MI	Berlin & Farro	Swartz Creek	V R F S	O
14	01	MA	Baird & McGuire	Holbrook	R F	O
15	02	NJ	Lone Pine Landfill	Freehold Township	R	
16	01	NH	Somersworth Sanitary Landfill	Somersworth	R	
17	05	MN	FMC Corp. (Fridley Plant)	Fridley	V F S	O
18	06	AR	Vertac, Inc.	Jacksonville	V F	I
19	01	NH	Keefe Environmental Services	Epping	V R S	O
20	08	SD	Whitewood Creek *	Whitewood	V	
21	08	MT	Silver Bow Creek	Sil Bow/Deer Lodge	R	
22	06	TX	French, Ltd.	Crosby	R F	O
23	01	NH	Sylvester *	Nashua	R S	O
24	05	MI	Liquid Disposal, Inc.	Utica	R F	O
25	03	PA	Tysons Dump	Upper Merion Twp	R	O
26	03	PA	McAdoo Associates *	McAdoo Borough	R	
27	06	TX	Motco Inc. *	La Marque	R	O
28	05	OH	Arcanum Iron & Metal	Darke County	R F	
29	08	MT	East Helena Site	East Helena		
30	06	TX	Sikes Disposal Pits	Crosby	R F	O
31	04	AL	Triana/Tennessee River	Limestone/Morgan	V R F	
32	09	CA	Stringfellow *	Glen Avon Heights	R F	O
33	01	ME	McKin Co.	Gray	R S	O
34	06	TX	Crystal Chemical Co.	Houston	R F	O
35	02	NJ	Bridgeport Rental & Oil Services	Bridgeport	R	O
36	08	CO	Sand Creek Industrial	Commerce City		
37	06	TX	Geneva Industries/Fuhrmann Energy	Houston	R F	O
38	01	MA	W. R. Grace & Co. (Acton Plant)	Acton	V F	I
39	05	MN	Reilly Tar (St. Louis Park Plant)	St. Louis Park	R F S	I
40	02	NJ	Burnt Fly Bog	Marlboro Township	R S	O
41	02	NJ	Vineland Chemical Co., Inc.	Vineland	D	
42	04	FL	Schuylkill Metals Corp.	Plant City	D	O
43	05	MN	New Brighton/Arden Hills	New Brighton	R	O
44	02	NY	Old Bethpage Landfill	Oyster Bay	V S	
45	02	NJ	Shieldalloy Corp.	Newfield Borough	D	
46	04	FL	Reeves SE Galvanizing Corp.	Tampa	D	O
47	08	MT	Anaconda Co. Smelter	Anaconda	V R	
48	10	WA	Western Processing Co., Inc.	Kent	V R F	O
49	05	WI	Omega Hills North Landfill	Germantown	D	
50	04	FL	American Creosote Works	Pensacola	R F	O

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 2

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
51	02	NJ	Caldwell Trucking Co.	Fairfield	R S	
52	02	NY	GE Moreau	South Glen Falls	V	
53	05	IN	Seymour Recycling Corp. *	Seymour	V R F	O
54	05	OH	United Scrap Lead Co., Inc.	Troy	D	
55	06	OK	Tar Creek (Ottawa County)	Ottawa County	R	I
56	07	KS	Cherokee County	Cherokee County	R	
57	02	NJ	Brick Township Landfill	Brick Township	D	
58	05	MI	Northernaire Plating	Cadillac	R	O
59	05	WI	Janesville Old Landfill	Janesville	D	
60	10	WA	Frontier Hard Chrome, Inc.	Vancouver	R	
61	04	SC	Independent Nail Co.	Beaufort	D	
62	04	SC	Kalama Specialty Chemicals	Beaufort	S	
63	05	WI	Janesville Ash Beds	Janesville	D	
64	04	FL	Davie Landfill	Davie	D	
65	05	OH	Miami County Incinerator	Troy	F	
66	04	FL	Gold Coast Oil Corp.	Miami	D	
67	05	WI	Wheeler Pit	La Prairie Township	D	
68	09	AZ	Tucson Intl Airport Area	Tucson	R	
69	02	NY	Wide Beach Development	Brant	R	
70	09	CA	Iron Mountain Mine	Redding	R	
71	02	NJ	Scientific Chemical Processing	Carlstadt	S	
72	08	CO	California Gulch	Leadville		
73	02	NJ	D'Imperio Property	Hamilton Township	R	
74	05	MI	Gratiot County Landfill *	St. Louis	V R F S	
75	01	RI	Picillo Farm *	Coventry	R S	O
76	01	MA	New Bedford Site *	New Bedford	V R F S	I
77	06	LA	Old Inger Oil Refinery *	Darrow	R	O
78	05	OH	Chem-Dyne *	Hamilton	V R F S	O
79	04	SC	SCRDI Bluff Road *	Columbia	V R F	O
80	01	CT	Laurel Park, Inc. *	Naugatuck Borough	V S	
81	08	CO	Marshall Landfill *	Boulder County		
82	05	IL	Outboard Marine Corp. *	Waukegan	R F S	
83	06	NM	South Valley *	Albuquerque	R F	
84	01	VT	Pine Street Canal *	Burlington	V	I
85	03	WV	West Virginia Ordnance *	Point Pleasant	V	O
86	07	MO	Ellisville Site *	Ellisville	R	O
87	08	ND	Arsenic Trioxide Site *	Southeastern N.D.	R	
88	09	TT	PCB Wastes *	Pacific Trust Terr	R	C
89	03	VA	Matthews Electroplating *	Roanoke County	R	
90	07	IA	Aidex Corp. *	Council Bluffs	R F	O
91	09	AZ	Mountain View Mobile Homes *	Globe	R F	I
92	09	AS	Taputimu Farm *	American Samoa	R	C
93	04	TN	North Hollywood Dump *	Memphis	R S	
94	04	KY	A.L. Taylor (Valley of Drums) *	Brooks	R F	O
95	04	NC	PCB Spills *	210 Miles of Roads	R F	C
96	09	GU	Ordot Landfill *	Guam	R	
97	04	MS	Flowood Site *	Flowood	D	
98	08	UT	Rose Park Sludge Pit *	Salt Lake City	V	
99	07	KS	Arkansas City Dump *	Arkansas City	R	
100	09	CM	PCB Warehouse *	Marianas	R	C

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 3

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
101	05	MN	Oakdale Dump	Oakdale	F	
102	05	IL	A & F Material Reclaiming, Inc.	Greenup	V R F S	O
103	03	PA	Douglassville Disposal	Douglassville	R	
104	02	NJ	Krysowaty Farm	Hillsborough	R	
105	05	MN	Koppers Coke	St. Paul	D	
106	01	MA	Plymouth Harbor/Cannon Engnrng	Plymouth	V R S	O
107	10	ID	Bunker Hill Mining & Metallurg	Smelterville	D	
108	02	NY	Hudson River PCBs	Hudson River	R	
109	02	NJ	Universal Oil Products(Chem Div)	East Rutherford	S	
110	09	CA	Aerojet General Corp.	Rancho Cordova	S	
111	10	WA	Com Bay, South Tacoma Channel	Tacoma	R F	O
112	03	PA	Osborne Landfill	Grove City	V S	
113	01	CT	Old Southington Landfill	Southington	D	
114	02	NY	Syosset Landfill	Oyster Bay	D	
115	09	AZ	Nineteenth Avenue Landfill	Phoenix	S	
116	10	OR	Teledyne Wah Chang	Albany	D	
117	02	NY	Sinclair Refinery	Wellsville	V R	
118	04	AL	Mowbray Engineering Co.	Greenville	R	O
119	05	MI	Spiegelberg Landfill	Green Oak Township	R	
120	04	FL	Miami Drum Services	Miami	R	O
121	02	NJ	Reich Farms	Pleasant Plains	D	
122	10	ID	Union Pacific Railroad Co.	Pocatello	D	
123	02	NJ	South Brunswick Landfill	South Brunswick	V	I
124	04	AL	Ciba-Geigy Corp. (McIntosh Plant)	McIntosh	D	
125	04	FL	Kassauf-Kimerling Battery	Tampa	R F	
126	05	IL	Wauconda Sand & Gravel	Wauconda	R	
127	01	NH	Ottati & Goss/Kingston Steel Drum	Kingston	V R F S	O
128	05	MI	Ott/Story/Cordova	Dalton Township	R	O
129	02	NJ	NL Industries	Pedricktown	S	O
130	05	MN	St. Regis Paper Co.	Cass Lake	D	
131	02	NJ	Ringwood Mines/Landfill	Ringwood Borough	V	
132	04	FL	Whitehouse Oil Pits	Whitehouse	R	
133	04	CA	Hercules 009 Landfill	Brunswick	D	
134	05	MI	Velsicol Chemical (Michigan)	St. Louis	V F S	O
135	05	OH	Summit National	Deerfield Township	R	
136	02	NY	Love Canal	Niagara Falls	R F S	O
137	05	IN	Fisher-Calo	LaPorte	F	
138	04	FL	Pioneer Sand Co.	Warrington	R S	
139	05	MI	Springfield Township Dump	Davisburg	R	
140	03	PA	Hranica Landfill	Buffalo Township	D	
141	04	NC	Martin Marietta, Sodyeco, Inc.	Charlotte	D	
142	04	FL	Zellwood Ground Water Contam	Zellwood	F	
143	05	MI	Packaging Corp. of America	Filer City	F	
144	05	WI	Muskego Sanitary Landfill	Muskego	D	
145	02	NY	Hooker (S Area)	Niagara Falls	F S	
146	03	PA	Lindane Dump	Harrison Township	D	
147	08	CO	Central City-Clear Creek	Idaho Springs	R	
148	02	NJ	Ventron/Velsicol	Wood Ridge Borough	S	
149	04	FL	Taylor Road Landfill	Seffner	V F	O
150	01	RI	Western Sand & Gravel	Burrillville	R S	O

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 4

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
151	04	SC	Koppers Co., Inc (Florence Plant)	Florence	S	
152	02	NJ	Maywood Chemical Co.	Maywood/Rochelle Pk		I
153	02	NJ	Nascolite Corp.	Millville	V R	
154	06	OK	Hardage/Criner	Criner	F	
155	05	MI	Rose Township Dump	Rose Township	R	
156	05	MN	Waste Disposal Engineering	Andover	V R F	
157	02	NJ	Kin-Buc Landfill	Edison Township	V R F	O
158	05	OH	Bowers Landfill	Circleville	V	
159	02	NJ	Ciba-Geigy Corp.	Toms River	R	
160	05	MI	Butterworth #2 Landfill	Grand Rapids	F	
161	02	NJ	American Cyanamid Co.	Bound Brook	S	
162	03	PA	Heleva Landfill	North Whitehall Twp	R	
163	02	NJ	Ewan Property	Shamong Township	D	
164	02	NY	Batavia Landfill	Batavia	V	
165	05	MN	Boise Cascade/Onan/Medtronics	Fridley	S	I
166	01	RI	L&RR, Inc.	North Smithfield	V S	
167	04	FL	NW 58th Street Landfill	Hialeah	R	
168	02	NJ	Delilah Road	Egg Harbor Township	R	
169	03	PA	Mill Creek Dump	Erie	R	O
170	04	FL	Sixty-Second Street Dump	Tampa	R	
171	05	MI	G&H Landfill	Utica	R	
172	02	NJ	Metaltec/Aerosystems	Franklin Borough	R	
173	05	WI	Schmalz Dump	Harrison	D	
174	02	NJ	Lang Property	Pemberton Township	D	
175	02	NJ	Sharkey Landfill	Parsippany Troy Hls	R	
176	09	CA	Selma Treating Co.	Selma	S	
177	06	LA	Cleve Reber	Sorrento	V R	O
178	05	IL	Velsicol Chemical (Illinois)	Marshall	D	
179	05	MI	Tar Lake	Mancelona Township	D	
180	08	CO	Lowry Landfill	Arapahoe County	V R	
181	05	MN	MacGillis & Gibbs/Bell Lumber	New Brighton	S	
182	02	NJ	Combe Fill North Landfill	Mount Olive Twp	R	
183	01	MA	Re-Solve, Inc.	Dartmouth	R F	I
184	02	NJ	Goose Farm	Plumstead Township	R F	O
185	04	TN	Velsicol Chem (Hardeman County)	Toone	D	
186	02	NY	York Oil Co.	Moira	R F	O
187	04	FL	Sapp Battery Salvage	Cottondale	R	I
188	04	SC	Wamchem, Inc.	Burton	D	
189	02	NJ	Chemical Leaman Tank Lines, Inc.	Bridgeport	D	
190	05	WI	Master Disposal Service Landfill	Brookfield	D	
191	07	KS	Doepke Disposal Site (Holliday)	Johnson County	D	
192	02	NJ	Florence Land Recontouring LF	Florence Township	R	
193	01	RI	Davis Liquid Waste	Smithfield	R S	
194	01	MA	Charles-George Reclamation Lf	Tyngsborough	R F	O
195	02	NJ	King of Prussia	Winslow Township	D	
196	03	VA	Chisman Creek	York County	R	
197	05	OH	Nease Chemical	Salem	D	
198	02	NJ	W. R. Grace & Co. (Wayne Plant)	Wayne Township	R	O
199	02	NJ	Chemical Control	Elizabeth	R S	O
200	04	SC	Leonard Chemical Co., Inc.	Rock Hill	S	O

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 5

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
201	05	OH	Allied Chemical & Ironton Coke	Ironton	R F	
202	05	MI	Verona Well Field	Battle Creek	R F S	O
203	01	CT	Beacon Heights Landfill	Beacon Falls	R	
204	04	AL	Stauffer Chem (Cold Creek Plant)	Bucks	D	
205	05	MN	Burlington Northern (Brainerd)	Brainerd/Baxter	F S	
206	03	PA	Malvern TCE	Malvern	D	
207	02	NY	Facet Enterprises, Inc.	Elmira	V	
208	03	DE	Delaware Sand & Gravel Landfill	New Castle County	R	O
209	04	TN	Murray-Ohio Dump	Lawrenceburg	S	
210	05	IN	Envirochem Corp.	Zionsville	V R F S	O
211	05	IN	MIDCO I	Gary	R F	O
212	05	OH	South Point Plant	South Point	D	
213	04	FL	Coleman-Evans Wood Preserving Co.	Whitehouse	S	
214	03	PA	Dorney Road Landfill	Upper Macungie Twp	R	
215	05	IN	Northside Sanitary Landfill, Inc	Zionsville	F	
216	04	FL	Florida Steel Corp.	Indiantown	D	
217	09	AZ	Litchfield Airport Area	Goodyear/Avondale	F	
218	02	NJ	Spence Farm	Plumstead Township	R	
219	06	AR	Mid-South Wood Products	Mena	F	
220	09	CA	Atlas Asbestos Mine	Fresno County	D	
221	09	CA	Coalinga Asbestos Mine	Coalinga	D	
222	04	FL	Brown Wood Preserving	Live Oak	F	
223	02	NY	Port Washington Landfill	Port Washington	D	
224	02	NJ	Combe Fill South Landfill	Chester Township	R	
225	02	NJ	JIS Landfill	Jamesburg/S. Brnswck	S	
226	03	PA	Centre County Kepone	State College Boro	S	O
227	05	OH	Fields Brook	Ashtabula	D	
228	01	CT	Solvents Recovery Service	Southington	V	
229	08	CO	Woodbury Chemical Co.	Commerce City	R	
230	01	MA	Hocomonco Pond	Westborough	R	
231	04	KY	Distler Brickyard	West Point	R F	O
232	02	NY	Ramapo Landfill	Ramapo	V	
233	09	CA	Coast Wood Preserving	Ukiah	S	
234	02	NY	Mercury Refining, Inc.	Colonie	D	
235	04	FL	Hollingsworth Solderless Terminal	Fort Lauderdale	D	
236	02	NY	Olean Well Field	Olean	V R	O
237	04	FL	Varsol Spill	Miami	R	
238	05	MN	Joslyn Manufacturing & Supply Co.	Brooklyn Center	F S	
239	08	CO	Denver Radium Site	Denver	R	
240	04	FL	Tower Chemical Co.	Clermont	R F	O
241	07	MO	Syntex Facility	Verona	V F	I
242	08	MT	Milltown Reservoir Sediments	Milltown	R	
243	05	MN	Arrowhead Refinery Co.	Hermantown	R	
244	02	NJ	Pijak Farm	Plumstead Township	R	
245	02	NJ	Syncon Resins	South Kearny	R	O
246	09	CA	Liquid Gold Oil Corp.	Richmond	S	
247	09	CA	Purity Oil Sales, Inc.	Malaga	R	
248	01	NH	Tinkham Garage	Londonderry	R S	O
249	04	FL	Alpha Chemical Corp.	Galloway	D	
250	02	NJ	Bog Creek Farm	Howell Township	R	

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 6

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
251	01	ME	Saco Tannery Waste Pits	Saco	R	O
252	04	FL	Pickettville Road Landfill	Jacksonville	D	
253	01	MA	Iron Horse Park	Billerica	R	
254	03	PA	Palmerton Zinc Pile	Palmerton	F	
255	05	IN	Neal's Landfill (Bloomington)	Bloomington	V F S	
256	05	WI	Kohler Co. Landfill	Kohler	D	
257	01	MA	Silresim Chemical Corp.	Lowell	R S	O
258	01	MA	Wells C&H	Woburn	V F	
259	02	NJ	Chemsol, Inc.	Piscataway	S	
260	05	WI	Lauer I Sanitary Landfill	Menomonee Falls	D	
261	05	MI	Petoskey Municipal Well Field	Petoskey	F	
262	05	MN	Union Scrap	Minneapolis	S	
263	02	NJ	Radiation Technology, Inc.	Rockaway Township	V	
264	02	NJ	Fair Lawn Well Field	Fair Lawn	S	I
265	05	IN	Main Street Well Field	Elkhart	D	
266	05	MN	Lehillier/Mankato Site	Lehillier	R	O
267	10	WA	Lakewood Site	Lakewood	R S	I
268	03	PA	Industrial Lane	Williams Township	F	
269	05	WI	Onalaska Municipal Landfill	Onalaska	D	
270	02	NJ	Monroe Township Landfill	Monroe Township	S	O
271	02	NJ	Rockaway Borough Well Field	Rockaway Township	R	
272	05	IN	Wayne Waste Oil	Columbia City	R S	
273	10	ID	Pacific Hide & Fur Recycling Co.	Pocatello	R F	O
274	07	IA	Des Moines TCE	Des Moines	F	
275	02	NJ	Beachwood/Berkley Wells	Berkley Township	R	
276	02	NY	Vestal Water Supply Well 4-2	Vestal	S	
277	02	PR	Vega Alta Public Supply Wells	Vega Alta	R	
278	05	MI	Sturgis Municipal Wells	Sturgis	D	
279	05	MN	Washington County Landfill	Lake Elmo	S	
280	09	AZ	Indian Bend Wash Area	Scottsdale/Tempe	F	
281	09	CA	San Gabriel Valley (Area 1)	El Monte	R	I
282	09	CA	San Gabriel Valley (Area 2)	Baldwin Park Area	R	
283	10	WA	Com Bay, Near Shore/Tide Flats	Pierce County	R	
284	05	IL	LaSalle Electric Utilities	LaSalle	R	
285	05	IL	Cross Brothers Pail (Pembroke)	Pembroke Township	R	
286	02	PR	Upjohn Facility	Barceloneta	D	
287	09	CA	McColl	Fullerton	R F	I
288	03	PA	Henderson Road	Upper Merion Twp	D	
289	10	WA	Colbert Landfill	Colbert	R	O
290	06	LA	Petro-Processors	Scotlandville	V F	
291	02	PR	Frontera Creek	Rio Abajo	D	
292	02	PR	Barceloneta Landfill	Florida Afuera	D	
293	03	MD	Sand, Gravel & Stone	Elkton	R	I
294	05	MI	Spartan Chemical Co.	Wyoming	D	
295	02	NJ	Roebling Steel Co.	Florence	R	
296	03	PA	East Mount Zion	Springettsbury Twp	R	
297	04	TN	Amnicola Dump	Chattanooga	D	
298	02	NJ	Vineland State School	Vineland	D	
299	03	PA	Enterprise Avenue	Philadelphia	R S	O
300	01	MA	Groveland Wells	Groveland	V R S	

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 7

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
301	02	NY	General Motors (Cent Foundry Div)	Massena	F	
302	04	SC	SCRDI Dixiana	Cayce	R F S	O
303	07	MO	Fulbright Landfill	Springfield	D	
304	03	PA	Presque Isle	Erie	D	
305	02	NJ	Williams Property	Swainton	R	
306	02	NJ	Renora, Inc.	Edison Township	D	
307	02	NJ	Denzer & Schafer X-Ray Co.	Bayville	D	
308	02	NJ	Hercules, Inc. (Gibbstown Plant)	Gibbstown	D	
309	05	IN	Ninth Avenue Dump	Gary	V	
310	06	AR	Gurley Pit	Edmondson	V R F	O
311	01	RI	Peterson/Puritan, Inc.	Lincoln/Cumberland	D	
312	07	MO	Times Beach Site	Times Beach	R	O
313	05	MI	Wash King Laundry	Pleasant Plains Twp	S	
314	05	MN	Whittaker Corp.	Minneapolis	S	
315	05	MN	NL Industries/Taracorp/Golden	St. Louis Park	D	
316	01	CT	Kellogg-Deering Well Field	Norwalk	R	
317	01	MA	Cannon Engineering Corp. (CEC)	Bridgewater	R S	
318	02	NY	Niagara County Refuse	Wheatfield	D	
319	04	FL	Sherwood Medical Industries	Deland	D	
320	04	AL	Olin Corp. (McIntosh Plant)	McIntosh	D	
321	05	MI	Southwest Ottawa County Landfill	Park Township	S	
322	02	NY	Kentucky Avenue Well Field	Horseheads	R	
323	02	NJ	Asbestos Dump	Millington	F	
324	04	KY	Lee's Lane Landfill	Louisville	F	
325	06	AR	Frit Industries	Walnut Ridge	V F	I
326	05	OH	Fultz Landfill	Jackson Township	R	
327	04	FL	Tri-City Oil Conservationist, Inc	Tampa	R F	O
328	05	OH	Coshocton Landfill	Franklin Township	F	
329	03	PA	Lord-Shope Landfill	Girard Township	V S	I
330	10	WA	FMC Corp. (Yakima Pit)	Yakima	D	
331	05	WI	Northern Engraving Co.	Sparta	D	
332	01	MA	PSC Resources	Palmer	S	I
333	05	MI	Forest Waste Products	Otisville	R F	I
334	03	PA	Drake Chemical	Lock Haven	R F	O
335	01	NH	Kearsarge Metallurgical Corp.	Conway	S	
336	04	SC	Palmetto Wood Preserving	Dixianna	D	
337	05	MI	Clare Water Supply	Clare	D	
338	03	PA	Havertown PCP	Haverford	R	
339	03	DE	New Castle Spill	New Castle County	D	
340	05	MN	Morris Arsenic Dump	Morris	R	
341	05	IN	Lake Sandy Jo (M&M Landfill)	Gary	R	
342	05	IL	Johns-Manville Corp.	Waukegan	V F	
343	05	MI	Chem Central	Wyoming Township	S	
344	05	MI	Novaco Industries	Temperance	F	
345	02	NJ	Jackson Township Landfill	Jackson Township	D	
346	05	MI	K&L Avenue Landfill	Oshtemo Township	D	
347	10	WA	Kaiser Aluminum Mead Works	Mead	V	O
348	05	MN	Perham Arsenic Site	Perham	R	
349	05	MI	Charlevoix Municipal Well	Charlevoix	R	I
350	02	NJ	Montgomery Township Housing Dev	Montgomery Township	R	

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 8

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
351	02	NJ	Rocky Hill Municipal Well	Rocky Hill Borough	R	
352	02	NY	Brewster Well Field	Putnam County	R	
353	02	NY	Vestal Water Supply Well 1-1	Vestal	R	
354	05	MN	Nutting Truck & Caster Co.	Faribault	S	
355	02	NJ	U.S. Radium Corp.	Orange	R	
356	06	TX	Highlands Acid Pit	Highlands	R	
357	03	PA	Resin Disposal	Jefferson Borough	D	
358	08	MT	Libby Ground Water Contamination	Libby	D	
359	04	KY	Newport Dump	Newport	D	
360	03	PA	Moyers Landfill	Eagleville	R F	
361	04	FL	Parramore Surplus	Mount Pleasant	D	
362	01	NH	Savage Municipal Water Supply	Milford	R S	O
363	05	IN	Poer Farm	Hancock County	R	O
364	05	MI	Hedblum Industries	Oscoda	F	
365	06	TX	United Creosoting Co.	Conroe	V R	C
366	08	WY	Baxter/Union Pacific Tie Treating	Laramie	D	
367	02	NJ	Sayreville Landfill	Sayreville	D	
368	01	NH	Dover Municipal Landfill	Dover	R	
369	02	NY	Ludlow Sand & Gravel	Clayville	D	
370	05	WI	City Disposal Corp. Landfill	Dunn	D	
371	02	NJ	Tabernacle Drum Dump	Tabernacle Twp	V F	
372	02	NJ	Cooper Road	Voorhees Township	D	
373	07	MO	Minker/Stout/Romaine Creek	Imperial	R	O
374	01	CT	Yaworski Waste Lagoon	Canterbury	R S	
375	03	WV	Leetown Pesticide	Leetown	R	O
376	04	FL	Cabot/Koppers	Gainesville	R S	
377	02	NJ	Evor Phillips Leasing	Old Bridge Township	D	
378	03	PA	Wade (ABM)	Chester	R F S	O
379	03	PA	Lackawanna Refuse	Old Forge Borough	R F	O
380	06	OK	Compass Industries (Avery Drive)	Tulsa	R	
381	02	NJ	Mannheim Avenue Dump	Galloway Township	D	
382	02	NY	Fulton Terminals	Fulton	D	O
383	01	NH	Auburn Road Landfill	Londonderry	R S	
384	03	WV	Fike Chemical, Inc.	Nitro	V F	I
385	05	MN	General Mills/Henkel Corp.	Minneapolis	S	
386	05	OH	Laskin/Poplar Oil Co.	Jefferson Township	R F	O
387	05	OH	Old Mill	Rock Creek	R F	O
388	07	KS	Johns' Sludge Pond	Wichita	V F	I
389	09	CA	Del Norte Pesticide Storage	Crescent City	R	
390	02	NJ	De Rewal Chemical Co.	Kingwood Township	D	
391	02	NJ	Swope Oil & Chemical Co.	Pennsauken	V R	I
392	04	GA	Monsanto Corp. (Augusta Plant)	Augusta	V	
393	01	NH	South Municipal Water Supply Well	Peterborough	S	
394	01	ME	Winthrop Landfill	Winthrop	V F	I
395	06	AR	Cecil Lindsey	Newport	R	
396	05	OH	Zanesville Well Field	Zanesville	V	
397	05	WI	Eau Claire Municipal Well Field	Eau Claire	D	
398	04	GA	Powersville Site	Peach County	D	
399	05	MI	Grand Traverse Overall Supply Co.	Greilickville	D	
400	05	MI	Metamora Landfill	Metamora	D	

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 9

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
401	05	MI	Whitehall Municipal Wells	Whitehall	R	
402	05	MN	South Andover Site	Andover	D	
403	02	NJ	Diamond Alkali Co.	Newark	V	I
404	05	MI	Kentwood Landfill	Kentwood	D	
405	05	MI	Electrovoice	Buchanan	D	
406	02	PR	Fibers Public Supply Wells	Jobos	D	
407	05	IN	Marion (Bragg) Dump	Marion	D	
408	05	OH	Pristine, Inc.	Reading	F	I
409	05	WI	Mid-State Disposal, Inc. Landfill	Cleveland Township	R	
410	08	CO	Broderick Wood Products	Denver	R	
411	05	OH	Buckeye Reclamation	St. Clairsville	D	
412	06	TX	Bio-Ecology Systems, Inc.	Grand Prairie	R	O
413	02	NJ	Woodland Route 532 Dump	Woodland Township	D	
414	05	IN	American Chemical Service, Inc.	Griffith	D	
415	01	VT	Old Springfield Landfill	Springfield	V R F	O
416	02	NY	Solvent Savers	Lincklaen	D	
417	03	VA	U.S. Titanium	Piney River	F S	
418	05	IL	Galesburg/Koppers Co.	Galesburg	D	
419	02	NY	Hooker (Hyde Park)	Niagara Falls	V F S	O
420	05	MI	SCA Independent Landfill	Muskegon Heights	D	
421	09	CA	MGM Brakes	Cloverdale	S	
422	06	LA	Bayou Sorrell	Bayou Sorrell	F	
423	05	MI	Duell & Gardner Landfill	Dalton Township	D	
424	02	NJ	Ellis Property	Evesham Township	R	O
425	04	KY	Distler Farm	Jefferson County	R F	O
426	10	WA	Harbor Island (Lead)	Seattle	D	
427	05	WI	Lemberger Transport & Recycling	Franklin Township	D	
428	05	OH	E.H. Schilling Landfill	Hamilton Township	D	
429	05	MI	Cliff/Dow Dump	Marquette	F	
430	10	WA	Queen City Farms	Maple Valley	F	
431	05	WI	Scrap Processing Co., Inc.	Medford	S	
432	06	NM	Homestake Mining Co.	Milan	V F	I
433	05	MI	Mason County Landfill	Pere Marquette Twp	D	
434	05	MI	Cemetery Dump	Rose Center	R	
435	02	NJ	Hopkins Farm	Plumstead Township	D	
436	01	RI	Stamina Mills, Inc.	North Smithfield	R	
437	05	IN	Reilly Tar (Indianapolis Plant)	Indianapolis	F	
438	01	ME	Pinette's Salvage Yard	Washburn	R	O
439	06	TX	Harris (Farley Street)	Houston	V	
440	02	NJ	Wilson Farm	Plumstead Township	D	
441	03	PA	Old City of York Landfill	Seven Valleys	D	
442	05	IL	Byron Salvage Yard	Byron	R	I
443	03	PA	Stanley Kessler	King of Prussia	F	
444	02	NJ	Friedman Property	Upper Freehold Twp	R	
445	02	NJ	Imperial Oil/Champion Chemicals	Morganville	D	
446	02	NJ	Myers Property	Franklin Township	R	I
447	02	NJ	Pepe Field	Boonton	R	
448	05	MI	Ossineke Ground Water Contam	Ossineke	D	
449	03	WV	Follansbee Site	Follansbee	F	
450	09	CA	Koppers Co., Inc. (Oroville Plant)	Oroville	S	

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 10

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
451	05	MI	U.S. Aviex	Howard Township	S	
452	03	PA	Walsh Landfill	Honeybrook Township	R	
453	02	NJ	Landfill & Development Co.	Mount Holly	S	I
454	02	NJ	Upper Deerfield Township Slf	Upper Deerfield Twp	D	
455	06	NM	AT & SF (Clovis)	Clovis	V F	
456	02	NY	American Thermostat Co.	South Cairo	V	
457	04	TN	Lewisburg Dump	Lewisburg	D	
458	05	MI	McGraw Edison Corp.	Albion	V	
459	04	KY	Airco	Calvert City	D	
460	03	PA	Metal Banks	Philadelphia	V F	
461	04	KY	B.F. Goodrich	Calvert City	D	
462	05	MI	Organic Chemicals, Inc.	Grandville	D	
463	01	MA	Sullivan's Ledge	New Bedford	R	
464	02	PR	Juncos Landfill	Juncos	V F	O
465	05	IN	Bennett Stone Quarry	Bloomington	S	O
466	04	FL	Munisport Landfill	North Miami	D	
467	04	AL	Stauffer Chem (Le Moyne Plant)	Axis	D	
468	02	NJ	M&T Delisa Landfill	Asbury Park	V R	
469	04	SC	Geiger (C & M Oil)	Rantowles	D	
470	05	WI	Moss-American(Kerr-McGee Oil Co.)	Milwaukee	D	
471	05	WI	Waste Research & Reclamation Co.	Eau Claire	D	
472	10	OR	Gould, Inc.	Portland	V	I
473	05	MN	St. Louis River Site	St. Louis County	D	
474	05	MI	Auto Ion Chemicals, Inc.	Kalamazoo	V	
475	04	SC	Carolawn, Inc.	Fort Lawn	R F	O
476	03	PA	Berks Sand Pit	Longswamp Township	R	O
477	05	MI	Sparta Landfill	Sparta Township	S	
478	05	IL	ACME Solvent (Morristown Plant)	Morristown	R	
479	04	FL	Hipps Road Landfill	Duval County	D	
480	04	FL	Pepper Steel & Alloys, Inc.	Medley	R F	O
481	01	ME	O'Connor Co.	Augusta	D	
482	05	WI	Oconomowoc Electroplating Co. Inc	Ashippin	D	
483	05	MI	Rasmussen's Dump	Green Oak Township	R	
484	03	PA	Westline Site	Westline	R	O
485	05	OH	Powell Road Landfill	Dayton	D	
486	05	MI	Ionia City Landfill	Ionia	F	I
487	08	CO	Lincoln Park	Canon City	D	
488	05	IN	Wedzeb Enterprises, Inc.	Lebanon		I
489	02	PR	CE Wiring Devices	Juana Diaz	V F	
490	05	OH	New Lyme Landfill	New Lyme	V	
491	02	NJ	Woodland Route 72 Dump	Woodland Township	D	
492	02	PR	RCA Del Caribe	Barceloneta	D	C
493	03	PA	Brodhead Creek	Stroudsburg	R F	O
494	10	OR	United Chrome Products, Inc.	Corvallis	R	
495	05	MI	Anderson Development Co.	Adrian	D	
496	05	MI	Shiawassee River	Howell	D	
497	03	PA	Taylor Borough Dump	Taylor Borough	R	O
498	03	DE	Harvey & Knott Drum, Inc.	Kirkwood	R F	O
499	04	TN	Gallaway Pits	Gallaway	R F	O
500	05	OH	Big D Campground	Kingsville	D	

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 11

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
501	03	DE	Wildcat Landfill	Dover	D	
502	05	MI	Burrows Sanitation	Hartford	D	
503	03	PA	Blosenski Landfill	West Caln Township	F	
504	03	DE	Delaware City PVC Plant	Delaware City	V F	
505	03	MD	Limestone Road	Cumberland	R	
506	02	NY	Hooker (102nd Street)	Niagara Falls	V F S	
507	03	DE	New Castle Steel	New Castle County	D	
508	06	NM	United Nuclear Corp.	Church Rock	F	
509	06	AR	Industrial Waste Control	Fort Smith	F	
510	09	CA	Celtor Chemical Works	Hoopa	R	O
511	04	AL	Perdido Ground Water Contam	Perdido	D	O
512	02	NY	Marathon Battery Corp.	Cold Springs	R	
513	03	PA	Lehigh Electric & Engineering Co.	Old Forge Borough	R F	O
514	05	OH	Skinner Landfill	West Chester	D	
515	04	NC	Chemtronics, Inc.	Swannanoa	D	
516	07	MO	Shenandoah Stables	Moscow Mills	V F	O
517	06	LA	Bayou Bonfouca	Slidell	R	
518	03	VA	Saltville Waste Disposal Ponds	Saltville	R	
519	03	PA	Kimberton Site	Kimberton Borough	D	
520	03	MD	Middletown Road Dump	Annapolis	R	I
521	10	WA	Pesticide Lab (Yakima)	Yakima	D	
522	05	IN	Lemon Lane Landfill	Bloomington	R S	I
523	10	ID	Arrcom (Drexler Enterprises)	Rathdrum	R	O
524	03	PA	Fischer & Porter Co.	Warminster	V F	
525	09	CA	Jibboom Junkyard	Sacramento	R	
526	02	NJ	A. O. Polymer	Sparta Township	D	O
527	02	NJ	Dover Municipal Well 4	Dover Township	D	
528	02	NJ	Rockaway Township Wells	Rockaway	V	I
529	05	WI	Delavan Municipal Well #4	Delavan	D	
530	09	CA	San Gabriel Valley (Area 3)	Alhambra	R	
531	09	CA	San Gabriel Valley (Area 4)	La Puente	R	
532	10	WA	American Lake Gardens	Tacoma	V	O
533	10	WA	Greenacres Landfill	Spokane County	D	
534	06	TX	Triangle Chemical Co.	Bridge City	R F	O
535	02	NJ	PJP Landfill	Jersey City	S	I
536	03	PA	Craig Farm Drum	Parker	D	
537	03	PA	Voortman Farm	Upper Saucon Twp	R	
538	05	IL	Belvidere Municipal Landfill	Belvidere	D	

TOTAL SITES LISTED: 538

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[FR Doc. 84-26979 Filed 10-12-84; 8:45 am]
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federal register

Monday
October 15, 1984

Part IV

Department of the Interior

Bureau of Land Management

43 CFR Part 3160

Onshore Oil and Gas Operations; Onshore Oil and Gas Order Number 2—Hydrogen Sulfide Operations; Proposed Rulemaking

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

43 CFR Part 3160

Onshore Oil and Gas Operations; Onshore Oil and Gas Order No. 2—Hydrogen Sulfide Operations

AGENCY: Bureau of Land Management, Interior.

ACTION: Proposed Rulemaking.

SUMMARY: This proposed rulemaking would issue Onshore Oil and Gas Order No. 2 under 43 CFR 3164.1. This Order supplements requirements found in 43 CFR Part 3160 relating to the submittal of applications to conduct operations and the actual conduct thereof when those activities are in areas where the involved oil and/or gas intervals are known or reasonably expected to contain potentially hazardous concentrations of hydrogen sulfide or sulfur dioxide. As such, the Order particularly concentrates on those requirements that are necessary for the personal protection of workers and the public. The Bureau of Land Management's existing internal guidelines on this subject had never been formalized in a Notice to Lessees and Operators. Thus, this Order has no direct predecessor.

DATE: Comments should be submitted by December 14, 1984. Comments received or postmarked after the above date may not be considered as part of the decisionmaking process on a final rulemaking.

ADDRESS: Comments should be sent to: Director (140), Bureau of Land Management, 1800 C Street NW., Washington, D.C. 20240.

Comments will be available for public review in Room 5555 of the above address during regular business hours (7:45 a.m. to 4:15 p.m.), Monday through Friday.

FOR FURTHER INFORMATION CONTACT: Eddie R. Wyatt, (202) 653–2133; or Robert C. Bruce, (202) 343–8735.

SUPPLEMENTARY INFORMATION: The existing regulations in 43 CFR Part 3160—Oil and Gas Operations—provide in § 3164.1 for the issuance of Oil and Gas Orders when necessary to implement and supplement the specific provisions of the regulations. All Orders are to be promulgated through the rulemaking process and, when issued in final form, apply on a nationwide basis. A table is included in § 3164.1 that shows all existing or former Orders. This proposed rulemaking would result in the second of such Orders. It is intended specifically to supplement the provisions of § 3162.5–1—Environmental obligations—and § 3162.5–3—Safety precautions—as well as specific terms of Federal and Indian oil and gas leases.

Federal and Indian oil and gas lease terms require that the lessee shall "* * * exercise reasonable diligence in (drilling,) developing and producing * * * (and) * * * conduct operations in a manner that minimizes adverse impacts to the land, air, and water * * *." In addition, the lease provides that the lessee shall "* * * maintain a safe working environment in accordance with standard industry practices; and take measures necessary to protect the health and safety of the public." Pertinent portions of the onshore oil and gas operating regulations reiterate and reemphasize these requirements.

Industry practice for operations in a hydrogen sulfide (H_2S) or sulfur dioxide (SO_2) environment has been established, and the Department of the Interior's minimal requirements in that respect have long been spelled out in the Manual of the former Conservation Division of the U.S. Geological Survey, the functions of which are now performed by the Bureau of Land Management. This Manual section (R79–CDM 643.9, as redesignated by the Bureau) established minimum requirements for the approval and supervision of operations in areas known or expected to contain potentially hazardous concentrations of hydrogen sulfide or sulfur dioxide. Thus, the proposed Order is a reaffirmation of existing policy and practices, which were never published previously for public comment and/or issued in the form of a Notice to Lessees and Operators.

Hydrogen sulfide is a colorless, heavier-than-air and very toxic gas. It is generally described as having a sour odor or the smell of rotten eggs, but the sense of smell can not be relied on to warn of danger, since exposure to concentrations as small as 100 ppm will paralyze the olfactory nerve within 2 to 15 minutes. Exposure to concentrations in the range of 500 to 700 ppm will result in the loss of consciousness, and possibly death, within 30 minutes. Concentrations as small as 1,000 ppm can prove lethal after a few minutes' exposure and may be fatal, even if the individual is removed to fresh air at once. Exposure to higher concentrations is nearly always fatal.

Sulfur dioxide is a colorless, heavier-than-air and toxic gas. It is generally described as having a pungent odor and taste. Exposure to sulfur dioxide gas in concentrations up to 20 ppm causes irritation to the nose and throat and results is sneezing and choking. Exposure to concentrations of 1,000 ppm or more is nearly always lethal. Sulfur dioxide gas may be generated as a result of the application of certain enhanced recovery techniques and is a byproduct of flaring hydrogen sulfide gas.

The presence of dangerous levels of hydrogen sulfide in the oil and/or gas from certain formations underlying various areas of the United States has long been recognized. As technology for conducting operations in a hydrogen sulfide environment has improved and the demand for new sources of domestic oil and gas has increased, industry's activities in areas where the presence of hydrogen sulfide is a factor have experienced a substantial growth. While recognizing that industry standards do exist and that these are generally followed, it is incumbent on the Bureau of Land Management to establish minimum acceptable requirements for operating in a hydrogen sulfide environment on Federal and Indian lands. These minimum requirements are necessary to ensure that industry employees are protected properly against the hazards associated with the release of gases that contain dangerous concentrations of hydrogen sulfide.

This proposed Order applies to all activities planned and carried out on Fedearal and Indian lands where operations are under the jurisdiction of the Bureau of Land Management when it is known or reasonably expected that hydrogen sulfide and/or sulfur dioxide will be present in such concentrations that its release could constitute a hazard to either life or property and, with respect to drilling operations, to areas where the presence or absence thereof is unknown. Thus, the proposed Order would apply to operations such as drilling, workovers, producing, injection, gathering, storing and treating of oil or gas on lands where operations come under the jurisdiction of the Bureau.

The organization of the proposed Order is straightforward. The general requirements encompass determinations of hydrogen sulfide concentration, calculating the radii of exposures and escape rates, and compliance records. The requirements that address drilling and workover operations relate primarily to worker safety and have been coordinated with the Occupational Safety and Health Administration. These requirements relate to operating procedures; equipment; personnel protection, including training and protective gear; detection and monitoring equipment; warning systems; ventilation equipment; and protection of

the public. The latter includes both contingency plans and curtailment plans for critical operations. Section IV. of the proposed Order contains requirements covering operations in a hydrogen sulfide environment.

The public is asked specifically to comment on section II.A.1.b. of the proposed Order which relates to the training of personnel. In areas where H_2S is known to exist, or reasonably may be expected to exist, should weekly drill and training sessions be required throughout the operation or only after the monitoring requirements are initiated? How frequently should these sessions be held when drilling in areas where the presence of H_2S is unknown?

The Bureau of Land Management also is considering the desirability of including this and other Orders in the Code of Federal Regulations, and specific comments are requested in that regard.

The principal authors of this proposed rulemaking are Eddie Wyatt, Sie Ling Chiang and Stephen Spector, all of the Washington Office, Bureau of Land Management, assisted by Bruce Wamsley formerly of the Montana State Office, Lee Pauli of the Tulsa District Office, and the staff of the Office of Legislation and Regulatory Management, Bureau of Land Management.

It is hereby determined that this rulemaking does not constitute a major Federal action significantly affecting the quality of the human environment and that no detailed statement pursuant to 102(2)(C) of the National Environmental Policy Act of 1969 (42 U.S.C. 4332(2)(C)) is required.

The Department of the Interior has determined that this document is not a major rule under Executive Order 12291 and will not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.).

The proposed Order will have no adverse economic effects, since its requirements reflect the operating practices currently followed by prudent operators when conducting operations in a hydrogen sulfide or sulfur dioxide environment. It may provide a beneficial economic effect in that proposals to conduct drilling or producing operations are less likely to be returned for modification if industry has a better understanding of the Bureau of Land Management's requirements in this regard. The major requirements basically are unchanged from those that have long been imposed on operations in a hydrogen sulfide or sulfur dioxide environment, and they impose the same burden on all lessees and operators, regardless of size, on lands where operations come under the jurisdiction of the Bureau. Therefore, a small entities flexibility analysis is not required.

The proposed Order will not affect current information collection and recordkeeping requirements. All proposed and existing reporting requirements are included in the following Office of Management and Budget approvals: 1004–0134, 1004–0135 or 1004–0136.

List of Subjects in 43 CFR Part 3160

Government contracts, Mineral royalties, Oil and gas exploration, Oil and gas production, Public lands—mineral resources, Indian lands—mineral resources, Reporting requirements.

PART 3164—[AMENDED]

Under the authority of the Mineral Leasing Act of 1920, as amended and supplemented (30 U.S.C. 181 et seq.), it is proposed to amend Part 3160, Group 3100, Subchapter C, Chapter II of Title 43 of the Code of Federal Regulations as set forth below:

1. Section 3164.1(b) is amended by adding the following entry to the table:

§ 3164.1 Onshore oil and gas orders.

* * * * *

(b) * * *

Order No.	Subject	Effective date	FR reference	Supersedes
1.	Approval of Operations.	Nov. 21, 1983	48 FR 48916 and 48 FR 56226.	NTL–6.
2.	Hydrogen Sulfide Operations.			None.

Dated: July 26, 1984.

Garrey E. Carruthers,

Assistant Secretary of the Interior.

Appendix—Text of Oil and Gas Order

Note.—This appendix will not appear in the Code of Federal Regulations.

Contents

Onshore Oil and Gas Order; Federal and Indian Oil and Gas Leases

Order No. 2

Effective ———.

Hydrogen Sulfide Operations

Introduction

This Order is established pursuant to the authority prescribed in 43 CFR 3160. Lessees and operators of onshore Federal and Indian (except Osage) oil and gas leases shall comply with the following requirements for conducting operations involving oil or gas that contains hydrogen sulfide. Requirments for protection of personnel and the public against sulfur dioxide emissions are contained in Section IV. of this Order. In general, any required reports or applications for variances hereunder shall be filed with the same office that Applications for Permit to Drill or Sundry Notices are filed. The requirements of this Order shall be administered by, and approvals obtained from, the authorized officer of the Bureau of Land Management.

This Order shall be effective whenever drilling, reworking, producing, injection for disposal or enhanced recovery, gathering, storing, and treating of hydrocarbons which are known or reasonably may be expected to contain concentrations of hydrogen sulfide (H_2S) gas or sulfur dioxide (SO_2) in such quantities that, if permitted to escape or accidentally released, could constitute a hazard to life or property and, with respect to drilling operations, to areas where the presence or absence thereof is unknown. The requirements of this Order do not apply where the absence of H_2S or SO_2 previously has been confirmed. Each application to conduct operations in such an H_2S or SO_2 environment shall fully describe the manner in which requirements of this Order will be implemented. Existing production facilities not meeting the requirements of Section III. of this Order shall be brought into conformance with such standards within a 150-day period after the effective date of this Order. If an operator has a valid reason to request a variance from the prescribed standards or an

extension of time in which to comply, it shall be submitted with the production system analysis. The authorized officer will consider the request, but if the variance or extension of time is denied, the operator shall have 60 days after receipt of the written denial or the original compliance date, whichever is later, to complete the necessary modifications.

The requirements relating to drilling operations are applicable in areas where the formations to be penetrated are known to contain or are expected to contain H_2S in excess of 20 ppm and, with respect to drilling operations, to areas where the presence or absence thereof is unknown. Other operations (producing, treating, etc.) will be evaluated on known conditions, such as volume of production, concentration of H_2S, geographical features, and relative location to populated areas. The authorized officer may, after consideration of all appropriate factors, require safety features that are more or less stringent than required by this Order. However, nothing contained in this Order is intended to relieve an operator of the necessity of complying with any applicable State or other Federal requirements concerning H_2S which are more stringent.

I. General

A. *Determination of H_2S Concentration.* Each operator shall determine the H_2S concentration in the gaseous mixture of each operation or facility and includes that information with the application to conduct the operation or to construct such a facility. For each existing production facility having an H_2S concentration of 100 ppm or more, the operator shall report to the authorized officer the H_2S concentration and radius of exposure within 30 days of the effective date of this Order and on annual basis thereafter. Production facilities constructed after the effective date of this Order and meeting the above concentration shall be subject to the same reporting requirement effective 30 days after operations at the facility are commenced. The requirements of this Order generally do not apply to situations in which the H_2S concentration measures less than 100 ppm, especially under low pressure and where past experience has demonstrated that these can be routinely and successfully contained. However, under the personnel protection provisions (Sections II.A.3., II.A.4.b., and II.C.1.g.) and the public protection provisions (Section II.B.), the requirements there relating to ambient concentrations as low as 20 ppm may be applied, even though the operation or facility concentration is less than 100 ppm. All drilling wells that will penetrate known or potential H_2S-bearing intervals shall have hydrogen sulfide (H_2S) monitoring equipment installed, as detailed in this Order.

B. *Radius of Exposure.* Except in the cases of storage tanks, the radius of exposure may be determined by the following Pasquill-Gifford equation, or by such other method(s) as may be approved by the authorized officer.

1. For determining, where applicable, the 20 ppm radius of exposure:
   $X = [(7.944)(H_2S)(Q)]\ (0.6258)$.
2. For determining the 100 ppm radius of exposure:
   $X = [(1.589)(H_2S)(Q)](0.6258)$.
3. For determining the 500 ppm radius of exposure:
   $X = [(0.4546)(H_2S)(Q)](0.6258)$.

where: X = radius of exposure in feet;
H_2S = mole fraction of hydrogen sulfide (ppm) in the gaseous mixture;
Q = maximum volume of gas determined to be available for escape in cubic feet per day (at standard conditions of 14.73 psia and 60 degrees F).

Where emissions rates of gas and the concentration of H_2S are high, a dispersion technique that takes into account wind speed and atmospheric stability should be used.

C. *Escape Rate.* The maximum volume used as the escape rate in determining the radius of exposure shall be that specified below, as applicable.

1. For a production facility, the escape rate shall be calculated using the maximum daily rate of gas handled by that facility.
2. For existing gas wells, the escape rate is calculated by using the current adjusted open-flow rate, or the operator's estimate of the well's deliverability against atmospheric pressure, whichever is larger.
3. For a well being drilled in a developed area, the escape rate is determined by using the current adjusted open-flow rate of offset wells completed in the interval(s) in question, or the current field average adjusted open-flow rate for the wells completed in such interval(s), whichever is larger.
4. For a well being drilled in an area where the presence or absence of H_2S has not been confirmed previously, 100 ppm radius of exposure equal to 3,000 feet shall be assumed in calculating the escape rate. If a lesser radius can be justified, a written request for an exception shall be submitted, with supporting justification, to the authorized officer.

D. *Applicability.* The radii of exposure are determined on all systems and special precautions taken, as required under Section II.B. of this Order, when any of the following conditions apply:

1. The 20 ppm radius of exposure includes any part of a city, town, village, park, dwelling, school bus stop, work area, or other areas that are expected to be populated;
2. The 100 ppm radius of exposure is in excess of 50 feet and includes any public area;
3. The 500 ppm radius of exposure is greater than 50 feet and includes any part of a road owned by and maintained for public access or use; or
4. The 100 ppm radius of exposure is equal to or greater than 3000 feet where the potential for public access exists.

E. *Compliance Records.* The operator shall maintain records documenting compliance with each applicable provision of the Order. These records shall be available for inspection during normal business hours or shall be submitted to the authorized officer, when requested.

II. Drilling and Workover Requirements

Where drilling operations are expected to encounter H_2S, all H_2S related safety equipment shall be installed, tested, and placed in operation when drilling reaches a depth of approximately 1,000 feet above, or 7 days prior to penetrating (whichever comes first) the first zone containing or suspected of containing H_2S. If H_2S was not anticipated at the time the Application for Permit to Drill was approved but is encountered, the operator shall immediately seek to contain or neutralize the gas, suspend drilling ahead operations, obtain materials and safety equipment to bring the operation into compliance, and notify the authorized officer of the event and the mitigating steps that have or are being taken and request approval to resume drilling ahead operations.

The authorized officer may require additional safety measures in areas that are extremely hazardous or that require special treatment. The authorized officer also may require the use of manual H_2S detectors when operating in areas containing H_2S in any quantity. When requested, test results shall be recorded and reported in the manner prescribed by the authorized officer.

All proposed drill site locations shall be planned to obtain the maximum safety benefits consistent with the rig configuration, terrain, prevailing winds, etc. The locations of houses, schools, roads, work areas, recreational areas, etc., where people could be present within a 2-mile radius of the drilling location, shall be shown on a map or plat (See II.B.1.d.). The drilling rig shall, where possible, be situated so prevailing winds blow across the rig in a direction away from the escape route(s). Where possible, two entry roads shall be established, one at each end of the location, or as dictated by prevailing winds. If an alternate road is not possible, a clearly marked footpath shall be provided to a safe area.

The safety requirements of this section are specified for the 3 categories of Personnel Protection (on-site), Public Protection (Contingency Plan), and Operating Equipment.

A. Personnel Protection.

1. Training Program.
   a. All personnel, whether regularly assigned or contracted or employed on an unscheduled basis, shall be informed of the hazards of working in an H_2S environment. They shall also be instructed in the proper use of personal safety equipment, H_2S detectors and alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds, by an instructor acceptable to the authorized officer.
   b. A weekly drill and training session for all personnel in each working crew shall be conducted and recorded on the driller's log. The instruction shall include first aid procedures, maintenance and use of protective breathing equipment, use of retrieval ropes with safety harnesses, and the advantages of working in pairs.
   c. At least 2 briefing areas shall be designated for assembly of personnel during emergency conditions, each at

least 200 feet from the well bore and located so 1 is upwind of the well at all times. The most normally upwind of the 2 locations shall be designated as the "Safe Briefing Area." Personnel shall be trained to practice routine observation of wind direction.

d. One person who regularly performs duties at the drilling site shall be designated and identified to all on-site personnel as the person primarily responsible for the overall operation of on-site safety and training programs.

2. Protective Equipment for Personnel.

a. All personnel on a drill site in H_2S environments shall have immediate access to proper protective breathing apparatus. The operator shall provide or require its drilling contractor to provide such equipment for the normal number of personnel involved in the drilling operation. The operator or its drilling contractor is not required to furnish protective-breathing equipment for service personnel, but the operator or its drilling contractor is required to inform service contractors of the necessity of having this equipment when called to the location. Lightweight, escape-type, self-contained breathing apparatus with a minimum of 5 minutes' supply shall be maintained at an easily accessible location for the derrickman and at any other location where escape from an H_2S contaminated atmosphere would be difficult. Additional protective breathing apparatus of the pressure-demand or positive pressure continuous-flow type (full-face piece that supplies breathing quality air for an extended period while maintaining a slight pressure inside the system) shall be provided for all personnel who are required to work in a hazardous H_2S environment. The operator shall assure that a proper respiratory protection program is implemented, in accordance with the American National Standard Practices for Respiratory Protection, Z.88.2–1980.

b. Storage and maintenance of protective breathing apparatus shall be planned to ensure at least 1 working apparatus is available for each rig hand regardless of current wind conditions.

c. Except for the 5-minute escape packs, each system shall have a working alarm signal for low air supply.

d. All personnel should be cleanshaven to assure a good seal of the mask to the face.

e. The following additional personnel safety equipment shall be available for use:

(1) Chalkboards and notepads for communication when using protective breathing apparatus;

(2) First aid supplies;

(3) Resuscitators;

(4) Litter;

(5) Harnesses and lifelines;

(6) Wind direction socks or streamers; and

(7) Telephone, radio, mobile phone, or any other device that provides instant communication from a safe area at the rig location.

3. Hydrogen Sulfide Detection and Monitoring Equipment.

Each drill site shall have an H_2S detection and monitoring system that activates audible and visible alarms when the concentration of H_2S reaches the threshold limit of 20 ppm in air. This equipment shall have a rapid response time and be capable of sensing a minimum of 10 ppm H_2S in air, with at least 3 sensing points, located at the shale shaker, on the derrick floor, and in the cellar. Other sensing points shall be located at other critical areas where H_2S might accumulate. The detection system shall be adequate for hazardous areas and installed and maintained, in accordance with the manufacturer's recommendations. The H_2S detection and monitoring equipment shall be calibrated daily when first installed and at least once every 8 hours when drilling, well completion, and/or workover operations are being conducted in an H_2S environment. All calibrations shall be conducted by qualified personnel and shall be recorded on the drillers log. Portable H_2S detection equipment capable of sensing an H_2S concentration of 20 ppm shall be available for all working personnel and shall be equipped with an audible warning singal. After H_2S has been detected by any device, an immediate inspection of all areas of poor ventilation shall be made. The sense of smell shall not be relied upon to detect the presence of H_2S. Early detection of possible H_2S concentration can be achieved by monitoring the mud chemistry. Such monitoring shall be required where and when the potential for H_2S exists.

4. Visible Warning System.

Equipment to indicate wind direction at all times shall be installed at prominent locations. At least 2 such wind socks or streamers shall be located at separate elevations, i.e., near ground level, rig floor, and/or treetop height. In addition, a wind sock at each of the 2 briefing areas shall be provided. All wind socks shall be clearly visible at all times so that wind direction is easily determined. When H_2S is encountered, operational danger signs shall be displayed on each side of the rig at the drill site and along all accesses to the site and shall be visible to approaching personnel. Each sign shall be painted a high-visibility yellow, with black lettering of sufficient size to be legible from 200–300 feet. Signs along the accesses shall be located at a safe distance from the site. The sign shall read:

DANGER—POISON GAS—HYDROGEN SULFIDE

and in smaller lettering:

Do Not Approach If Red Flag Is Flying

All signs and flags shall be illuminated under conditions of poor visibility, and at night. Where appropriate, bilingual or multilingual warning signs shall be used.

a. Moderate danger. The signs shall be displayed when H_2S is detected but is less that 20 ppm; detection efforts shall be intensified and steps taken to eliminate or neutralize the condition.

b. Intermediate danger. The action taken for moderate danger, in Section II.A.4.a. above, shall be continued when H_2S is determined to be in the 20–100 ppm range. Also, the red flags shall be hoisted, protective breathing apparatus shall be worn by all working personnel, and all nonworking personnel shall be moved to safe areas.

c. Extreme danger. All nonessential personnel, and all essential personnel as appropriate, shall be evacuated when H_2S exceeds 100 ppm concentration. Any personnel not evacuated shall be protected as provided above.

5. Ventilation Equipment.

All ventilation fans shall be explosion-proof and situated in areas when H_2S may accumulate. Portable fans to disperse H_2S vapors shall be provided in work areas. The rig layout shall be planned to achieve maximum benefit from natural ventilation.

B. *Public Protection.* When the conditions defined in Section I.D. exist, the following special precautions shall be taken to alert and protect the public.

1. Contingency Plan.

A written contingency plan providing details of action to alert and protect the public in the event of an accidental release of H_2S shall be submitted with an Application for Permit to Drill or Sundry Notice to the authorized officer (See Oil and Gas Order No. 1). The contingency plan shall be maintained and updated, as needed, and activated immediately after detection of release of a potentially hazardous volume of H_2S. A copy of the approved contingency plan shall be posted at the rig and at each briefing area. The details of the contingency plan will vary according to the site specific characteristics of the sour gas expected to be encountered and the number and proximity of the population potentially at risk. The plan shall include:

a. The responsibilities and duties of key personnel, instructions for alerting the public and requesting assistance, and the name of the person who has the authority to ignite the escaping gas.

b. A list of names and telephone numbers of residents and responsible parties of occupied buildings within the area of exposure. They shall be listed by wind sector and distance from the well site to ensure that those who are at the greatest risk are notified first. The plan shall define when and how people are to be notified in case of an H_2S emergency. Where a well is near a residential area, there shall be prescribed procedures for alerting nearby residents when well control problems become critical, but before an actual release of H_2S takes place. Face-to-face communication is the preferred method of notification. Where this is not a viable option, the use of siren(s), telephone, radio, and television shall also be employed, depending on the number of people at risk and their location with respect to the well site.

c. A telephone call list for requesting assistance from law enforcement, fire department, and medical personnel and State and Federal agencies, as required. Necessary information to be communicated and the emergency responses that may be required shall be listed. This information shall be based on previous meetings with these organizations.

d. A 2-mile radius plat of all private and public dwellings and other areas where the public might reasonably be expected to be present and provisions for advance briefings of the public, including:

(1) Hazards and characteristics of hydrogen sulfide;

(2) Necessity for an emergency action plan;

(3) Possible sources of hydrogen sulfide;

(4) Instructions for reporting a gas leak;

(5) The manner in which the public shall be notified of an emergency; and

(6) Steps to be taken in case of an emergency, including evacuation of any potentially endangered public and safeguards against property loss.

e. Guidelines for the ignition of the H_2S-bearing gas to produce a buoyant, less dangerous plume of sulfur dioxide. The plan shall clearly define when the gas is to be ignited and by whom. In populated areas, the decision to ignite a major release of H_2S gas shall occur as quickly as possible to minimize the prospect of public exposure to possibly harmful concentrations of H_2S.

In an area of high density population, or in other special cases, the authorized officer shall require more stringent plans to be developed. Until a release is brought under control, certain post-release activities shall be specified in a contingency plan to the authorized officer. These include the operator's monitoring of hydrogen sulfide around the well site together with meteorological conditions, maintenance of site security, communication of the well control status, and any other activities deemed necessary by the authorized officer.

2. Critical Operations and Curtailment Plans.

Certain operations performed under drilling and workover conditions are more critical than others with respect to the containment of potentially hazardous gases. Therefore, the authorized officer may require curtailment of certain operations for the protection of the public. Plans for critical operations shall be formulated at the time the Application for Permit to Drill is submitted for approval by the authorized officer. Prior to commencement of a critical operation, subsequent notice shall be given to the authorized officer.

C. *Operating Procedures and Equipment.*

1. General Operations.

Drill operations in H_2S areas shall be subject to the following requirements:

a. *Drill string trips or fishing operations.* Every effort shall be made to pull a dry string while maintaining well control. If it is necessary to pull the drill string wet after penetration of H_2S-bearing zones, continuous monitoring of the working area shall be provided and protective breathing apparatus worn.

b. *Circulating bottoms-up from a drilling break, cementing operations, logging operations, circulation while not drilling.* Continous monitoring of the working area shall be provided after penetration of an H_2S-bearing zone. Protective breathing apparatus shall be worn by those personnel in the working area for at least 15 minutes before and after bottoms-up.

c. *Coring operations in H_2S-bearing zones.* Personnel protective breathing apparatus shall be worn 10–20 stands in advance of retrieving the core barrel. Cores to be transported shall be sealed and marked for the presence of H_2S.

d. *Circulation medium for drilling H_2S-bearing zones.* If H_2S-bearing zones are encountered while drilling with air or gas as the circulating medium, the well shall be killed with a water or oil based mud and mud shall be used thereafter as the circulating medium for continued drilling.

e. *Abandonment or temporary abandonment operations.* Internal well abandonment equipment shall be designed for H_2S service.

f. *Logging operations after penetration of known or suspected H_2S-bearing zones.* Mud in use for logging operations shall be conditioned and treated to minimize the effects of H_2S on the logging equipment, or the logging equipment shall be designed for H_2S service.

g. *Gas-cut mud or well kick from H_2S-bearing zones.* Protective breathing apparatus shall be worn when an H_2S concentration of 20 ppm or more is detected. Should a decision be made to circulate out a kick, protective breathing apparatus shall be worn prior to and subsequent to bottoms-up and at any time during an extended kill operation when the concentration of H_2S becomes hazardous to personnel, as defined in paragraphs II.A.4.b. and c.

h. *Drill string precautions.* Precautions shall be taken to minimize drill string stresses caused by conditions such as excessive dogleg severity, improper stiffness ratios, improper torque, whip, abrasive wear on tool joints, and joint imbalance. American Petroleum Institute Bulletin RP 7G, or revision thereof, should be used as a guideline for drill string precautions. Tool-joint compounds containing free sulfur in excess of 0.3 percent shall not be used. Proper handling techniques shall be used to minimize notching, stress concentrations, and possible drill pipe failures.

i. *Flare system.* The flare system shall be designed to safely gather and burn H_2S-bearing gas. Flare lines shall be located as far from the operating site as feasible and in a manner to compensate for wind changes. The flare line(s) mouth(s) shall be located not less than 150 feet from the wellhead unless otherwise approved by the authorized officer. The flare system shall be equipped with a pilot and an automatic igniter. Where noncombustible gas is vented, the system shall be provided supplemental fuel for ignition and to maintain a continuous flare. All harmful gases created and released by flaring H_2S-contaminated gas, such as sulfur dioxide (SO_2), are subject to the requirements of Section IV. hereof.

j. *Kill line.* A kill line of ample strength, securely anchored, shall be laid to the wellhead from a safe location for emergency pumping into the well.

k. *Remote-controlled choke.* A remote-controlled choke shall be installed for H_2S drilling/completion and workover operations.

l. *Mud-gas separators.* A mud-gas separator (gas buster) shall be installed and operable prior to drilling into a suspected H_2S zone.

m. *Rotating head.* The authorized officer may require that a rotating head be installed and used in conjunction with the mud-gas separator prior to penetrating a suspected H_2S zone.

2. Mud Program.

a. Either water- or oil-base muds shall be used.

b. A pH of 10.0 or above in a water-base mud system shall be maintained to control corrosion and prevent sulfide stress cracking.

c. Sufficient quantities of additives shall be maintained on location to add to the mud system to scavenge and/or neutralize H_2S.

d. Corrosion inhibitors shall be applied to the drill pipe or to the mud system as a safeguard, in addition to the protection by pH control mentioned above.

e. Drilling mud containing H_2S gas shall be de-gassed in accordance with API recommendations at an optimum location for the rig configuration. These gases shall be piped into the flare system and burned at a remote location.

f. The mud weight shall be maintained in a balanced condition to prevent uncontrolled gas infiltration from an H_2S-bearing interval while drilling in or through that interval. Mud shall be continuously circulated through a de-gasser to rid the mud of gas.

3. Kick Detection and Well Control.

All efforts shall be made to prevent a well kick resulting from gas-cut mud, drilling breaks, lost circulation, or trips for bit change. In the event of a kick, the disposal of the well influx fluids shall be accomplished by one of the following alternatives, giving proper consideration to personnel and public safety, potential for environmental damage, and equipment capability.

a. *Alternative A.* The kick shall be controlled by using appropriate well-control techniques within the pressure limits of a well's equipment (drill pipe, casing, wellhead, blowout preventers, etc.). H_2S and other gases brought to the surface shall be disposed of through pressured or atmospheric mud-gas separator equipment, depending on volume, pressure, and concentration of H_2S gas. The equipment shall be designed to recover drilling mud, degas it, and vent and burn the separated gases. The mud system shall be treated to neutralize H_2S and to maintain the proper mud quality for well control.

b. *Alternative B.* In some situations, it may be possible and desirable to contain the kick by shutting in the well and pumping the influx fluids (bullheading the fluids) back into the formation. The mud system shall be treated to neutralize H_2S and to restore and maintain the proper mud quality for well control.

4. Well Testing in an H_2S Environment.

a. *Procedures.*

(1) Testing shall be performed, with a minimum number of personnel in the immediate vicinity of the test, using equipment to safely and adequately perform

the test to maintain related services. Except with prior approval by the authorized officer, the drill-stem testing of H_2S zones shall be conducted only during daylight hours.

(2) Prior to initiation of the test, special safety meetings for all affected personnel shall be conducted, with emphasis on the use of personnel protective breathing apparatus, first aid procedures, and the contingency plan procedures, as required.

(3) During the test, the required H_2S detection equipment shall be in operation and monitoring shall be maintained on a continuous basis. All produced gases shall be vented and burned through a flare system that meets the requirements of paragraph II.C.1.i. Gases from any stored fluids shall be vented into the flare system.

(4) "No Smoking" rules shall be enforced.

b. *Equipment.*

(1) Drill-stem test tools, wellhead equipment, and other testing facilities shall be suitable for H_2S service.

(2) Tubing that meets the requirements for H_2S service may be used for drill stem testing.

(3) The water cushion shall be thoroughly treated with inhibitors to prevent H_2S corrosion. The test string shall be flushed with a neutralizing fluid to dissipate the H_2S after completion of the test.

(4) All surface test units and related equipment shall be designed for H_2S service. Only competent personnel, trained in the hazardous effects of H_2S, shall be utilized in these tests.

5. Metallurgical Equipment Considerations.

To resist or prevent stress, corrosion, cracking, and/or H_2S embrittlement, the equipment shall be constructed of material whose metallurgical properties are chosen with consideration for both an H_2S working environment and the anticipated stresses. The metallurgical properties of the materials used shall conform to NACE Standard MR-01-75, Material Requirement, Sulfide Stress Cracking Resistant Metallic Material for Oil Field Equipment. These metallurgical properties include the grade of steel, the processing method (rolled, normalized, tempered, and/or quenched), and the resulting strength properties. The working environment considerations include the H_2S concentration, the well fluid pH; and the wellbore pressures and temperatures. For drilling and workover operations, such equipment includes the drill string, casing, wellhead, blowout preventers, kill lines, choke manifold, valves, mud-gas separators, and other related equipment. Each Application for Permit to Drill and each Sundry Notice to workover a well shall describe precautions to be taken to protect equipment from the hazards of an H_2S environment. The following general practices are required for acceptable performance.

a. *Drill string.* Drill strings shall be designed for the anticipated depth, conditions of the hole, and the wellbore environment. Care shall be taken to minimize exposure of the drill string to high stresses, as practical and consistent with the anticipated hole conditions.

b. *Casing and Tubing.* Casing, tubing, couplings, flanges and related equipment shall be designed for H_2S service.

c. *Wellhead, blowout preventers, and pressure control equipment.* The blowout preventer stack assembly shall be designed for use in a H_2S environment. Surface equipment such as choke lines, choke manifold, kill lines, pressure gauges, bolting, welds, and other related well-killing equipment shall be designed to resist or prevent sulfide stress cracking. There should be no thread connections upstream of the choke manifold or on outlets in the wellhead or blowout preventer. The casing head and spool shall meet the same requirements as the blowout preventer. Elastomers, packing, and similar inner parts exposed to H_2S shall be resistant at the maximum anticipated temperature of exposure.

III. Producing Operations

Except for storage tanks, a determination of the radius of exposure for all production systems shall be made in the manner prescribed in Section I of this Order.

A. *Storage Tanks.* Storage tanks utilized as part of a production operation and operated at or near atmospheric pressure, where the vapor accumulation has an H_2S concentration in excess of 100 ppm, are subject to the following:

1. No determination of a radius of exposure need be made for storage tanks as herein described.
2. All stairs/ladders leading to the top of storage tanks shall be chained and/or marked. A warning sign shall be posted on or within 50 feet of the facility to alert the general public of the potential danger. The sign shall be painted a high-visibility yellow, with black lettering of sufficient size to be legible from 200–300 feet. The sign shall state:

DANGER—POISON GAS—HYDROGEN SULFIDE

Where appropriate, bilingual or multilingual warning signs shall be used.

3. Fencing as an additional security measure shall be required when storage tanks are located within a townsite or city or within ¼ mile thereof, or where conditions are such that the public generally has free access to the storage tanks.
4. All stock tank installations, not currently equipped, shall be converted to closed systems within 150 days after the effective date of this Order. Such systems shall provide methods for gauging, sampling, and determining the temperatures without direct entry into the system, and for containment of vapors by recovery or burning. Alternatives to this requirement or an extension of time in which to comply shall be considered and may be approved by the authorized officer upon written request by the operator. This request shall include reasons for the requested delay or variance and, in the latter case, shall specify the alternative methods to be used for protecting personnel and public safety.

Stock tank vapors with H_2S concentrations in the 20–100 ppm range are not subject to the above requirements because of the lower concentrations of H_2S emissions. However, these concentration levels are hazardous to personnel who are required to work in close proximity thereto. Therefore, the operator shall provide such personnel with H_2S safety equipment and training, encourage working in pairs and post appropriate danger signs.

B. *Other Surface Production Facilities.* Warning signs shall be required in the case of fixed surface facilities (other than stock tanks) where the 100 ppm radius of exposure is in excess of 50 feet. Warning signs also shall be provided for well flowlines and lease gathering lines that carry sour gas. The design and placement of such signs shall conform to paragraph III.A.2. and be clearly visible on roads that provide direct access to such facilities or lines. Fencing or other security measures shall be required when such facilities are located within a city or townsite or within ¼ mile thereof or where conditions are such that the public generally has free access to the facilities or lines.

C. *Personnel Protection.* The appropriate personnel safety and protection requirements contained in Section II.A of this Order shall be applicable to leasehold production operations. A lightweight, self-contained, escape-type breathing apparatus is suitable for personnel who normally work alone. Producing operations in an H_2S environment are more likely to result in H_2S exposure than drilling or workover operations (i.e., continuation over a longer period of time, more instances in which personnel work alone, situations where contractors work unsupervised, and leaks or equipment failures that result in normally safe areas becoming hazardous). Therefore, the operator's responsibility for personnel safety in a producing scenario is critical because of the increased potential for exposure. Hence, in addition to providing the required protective breathing and detection equipment, wind direction indicators, etc., the operator shall provide all employees with adequate education as to the hazards of working in an H_2S environment through regularly scheduled and impromptu safety meetings and bulletin board postings. Adequate two-way radio communication should be provided for personnel who work alone to enable them to issue an appropriate and timely warning in the event they detect a leak or need assistance.

D. *Public Protection.* When conditions as defined in Section I.D. exist, the contingency plan shall be activated and the authorized officer notified. The plan shall include all appropriate requirements listed in Section II.B.1. One such plan is required per lease or field, as specified by the authorized officer. However, when the plan is intended cover the operator's total operations in a field, it shall include alternate actions for the various subsystems of geographic locations, as necessary, to cover the larger areal limits.

E. *Operating Procedures and Equipment.*

1. Producing wells, unless produced by artificial lift, shall have 2 master valves, a packer, and corrosion-inhibiting fluid. An automatic or surface-activated subsurface safety control valve set below

100 feet shall be installed in the tubing. Alternatives to this requirement shall be considered and may be approved by the authorized officer upon written request by the operator. This request shall include reasons for the variance and alternative methods for personnel and public protection. In either case, approval of the producing string and associated safety equipment shall be obtained prior to installation.

2. Surface systems shall have automatic closing devices to prevent uncontrolled flow in the event of equipment failure. of facilities shall be resistent to hydrogen sulfide stress cracking under the existing operating conditions. No field welding is permitted without proper stress relieving.
4. Materials and equipment in existing facilities with no record of failure from sulfide stress cracking shall be considered adequate.
5. In the event of a failure of any element of an existing system as a result of hydrogen sulfide stress cracking, the incident shall be reported to the authorized officer, with plans for the inspection, protection, or replacement of similar elements of the system.
6. Corrosion coupons or other methods to monitor corrosion rates shall be installed in all systems in which the H_2S concentration is 100 ppm or greater. If prohibitive corrosion rates are detected, the facilities shall be protected by an inhibitor or other suitable means.
7. H_2S detectors that activate a flashing light or other visual or audio alarm shall be installed near each producing well. If practicable, a sensor shall be connected so an alarm signal is transmitted to a remote but monitored facility. The H_2S detectors shall be calibrated when installed and at least twice weekly thereafter. All calibrations shall be conducted by qualified personnel and shall be recorded on the production operations report.
8. If practicable, wells shall be monitored and controlled from remote points.

IV. Sulfur Dioxide Operations

Sulfur dioxide (SO_2) may be produced from flaring of H_2S or from enhanced recovery operations, such as fire flooding or water injection. Where the sulfur dioxide is expected, the following requirements apply.

A. *Drilling and Workover Requirements.* Personnel protection and public protection requirements described under Sections I.A. through E. and II.A. and II.B. of this Order also are generally applicable to the SO_2 emission situations, with appropriate modifications for SO_2 being made. The following classifications of danger shall be used for warning and taking personnel protective measures in case of the presence of SO_2 emissions.

1. *Moderate danger.* The sign shall be displayed when SO_2 is detected but is less than 20 ppm; and the 8-hour average of SO_2 concentration does not exceed 5 ppm detection efforts shall be intensified and steps taken to eliminate or neutralize the condition.
2. *Intermediate danger.* When the above concentrations are exceeded but are below 100 ppm, the effort described above continues, the flags shall be hoisted, protective breathing apparatus and protective clothing shall be worn by working personnel, and all nonworking personnel shall be moved to safe areas.
3. *Extreme danger.* When the SO_2 concentration exceeds ppm, all nonessential personnel, and all other personnel as appropriate, shall be evacuated. Any personnel not evacuated shall be protected as provided above.

B. *Producing Operations.* With appropriate modifications with respect to SO_2, requirements in Sections III.A. throuh D. also are generally applicable to operations in a SO_2 environment.

Date

Assistant Director, Fluid Leasable Minerals

Approved:

Date

Director, Bureau of Land Management

[FR Doc. 84-27187 Filed 10-12-84; 8:45 am]

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October 15, 1984

Part V

Department of Education

34 CFR Part 221

Assistance for School Construction in Areas Affected by Federal Activities; Proposed Rule

DEPARTMENT OF EDUCATION

34 CFR Part 221

Assistance for School Construction in Areas Affected by Federal Activities

AGENCY: Department of Education.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Secretary of Education proposes to amend the regulations implementing the School Construction Program. The proposed regulations result from a review of current regulations and are designed to clarify requirements and to reduce regulatory burdens on applicants and grantees.

DATES: Comments must be received on or before December 14, 1984.

ADDRESS: Comments should be addressed to Dr. David G. Phillips, Division of Impact Aid, U.S. Department of Education, 400 Maryland Avenue, SW., Washington, D.C. 20202–6272.

FOR FURTHER INFORMATION CONTACT: Dr. David G. Phillips. Telephone: (202) 245–1975.

SUPPLEMENTARY INFORMATION:

Statutory Authorization and Regulatory Implementation

Assistance for School Construction in Areas Affected by Federal Activities—referred to in this notice of proposed rulemaking (NPRM) as the School Construction Program—has been part of the Impact Aid or SAFA Program since 1951. It is authorized by Pub. L. 81–815, as amended (64 Stat. 967, 20 U.S.C. 631–645).

The current regulations implementing the program were published on April 8, 1975 (40 FR 16012) as part 114 of Title 45 of the Code of Federal Regulations (CFR). The regulations were subsequently redesignated as 34 CFR Part 221 (45 FR 77368; November 21, 1980).

Description of Program

Under the School Construction Program the Secretary provides assistance to local educational agencies (LEAs) in whose school district Federal activities affect the size of student memberships, the children's need for facilities, and the LEAs' ability to finance the construction of school facilities.

Federal financial assistance awarded under the program is intended to help grantees construct or otherwise provide urgently needed minimum school facilities for eligible children. These facilities must meet State standards.

Statutory Requirements

While the authorizing statute leaves to the Secretary's discretion certain aspects of the operation of the program, the statute is relatively explicit with regard to a number of requirements.

The statute clearly designates, for example, the types of pupils for whom an LEA is eligible to receive assistance and the minimum number of percentage of these types of pupils an LEA must have to qualify for assistance.

The statute also establishes priorities for funding, specifies the Federal share of a project, limits total payments to an LEA, states conditions under which the Secretary may consider supplemental payments, and specifies circumstances under which the Secretary may grant a waiver or reduction of certain requirements.

Under section 9 the statute contains special provisions governing assistance if an increase in an LEA's membership results from a temporary Federal activity. In addition, under section 10, the statute authorizes the Secretary to arrange for facilities for certain types of pupils for whom an LEA is unable to provide a suitable free public education. The manner in which the Secretary handles requests for assistance under section 10 is discussed in greater detail elsewhere in this preamble.

NPRM Published in June 1979

On June 29, 1979, the Commissioner of Education published in the **Federal Register** (44 FR 38184) an NPRM proposing a number of changes in the current regulations. The changes were designed principally to simplify and clarify the regulations in order to "promote the efficiency and effectiveness" of the program. Interested persons were given 30 days to submit comments or recommendations.

Many comments were received, and the Secretary has considered all of them in preparing these proposed regulations. However, because of the time that has elapsed and because this version of the document contains a number of substantive changes, the Secretary has decided to publish the document as an NPRM and is again inviting public comment.

General Changes in These Proposed Regulations

Some of the changes to the current regulations were included in the NPRM published in June 1979. Other changes result from a review of both the current regulations and that NPRM for the purpose of deregulation.

Among the general changes in the proposed regulations are these:

- The proposed regulations are written in clear, simple English to enhance comprehension by users and other interested parties.
- The provisions of the proposed regulations have been rearranged into a more logical format to aid users.
- The proposed regulations would reduce regulatory burdens by omitting or amending many provisions that exceed statutory authority or that impose excessive paperwork and other requirements on applicants and grantees. The proposed regulations would also eliminate other provisions that are overly prescriptive or unnecessarily repetitious.
- As much as possible, the proposed regulations would leave decision-making to local authorities.
- The proposed regulations contain clearly stated, realistic examples to assist users in understanding complicated formulars and certain other requirements.

Specific Changes in These Proposed Regulations

The specific changes incorporated into this NPRM include the following:

- The proposed regulations would no longer require an LEA to use a prescribed parent-pupil survey in order to obtain an accurate count of pupils. Instead, the NPRM would specify the minimum information the LEA must obtain to identify each federally connected pupil and leave it to each LEA to determine (1) the means of obtaining the count of pupils and (2) what additional information, if any, the LEA would need on file to substantiate the eligibility of children claimed for payment.

For example, the proposed regulations would enable an LEA to avoid duplication and save time and money by permitting the LEA, if it so chooses, to obtain the minimum required information through a parent-pupil survey used by the LEA that same year to identify federally connected children for school assistance grants for maintenance and operation under the Impact Aid Program. In other words, it would not be necessary for the LEA to conduct a second survey or even to transfer the applicable information onto forms for individual pupils.

In addition, the Invitation To Comment section of this preamble specifically asks readers to comment on these proposed requirements and invites suggestions if readers believe there could be a further reduction in burden.

- The proposed regulations would no longer prescribe in detail the required documentation to describe a merger,

consolidation, or similar action affecting an LEA's boundaries, classification, or jurisdiction. Instead, the NPRM would require a successor LEA to (1) demonstrate to the Secretary's satisfaction that its succession meets all requirements of State law and (2) agree to be bound by all assurances and obligations under this part undertaken by the LEA(s) that it has succeeded.

• The proposed regulations would omit many unncessary and non-statutory requirements, including the following:

—The prescriptive provisions governing the Secretary's determination of an LEA's undue financial burden, if applicable.

—The special formula for determining priority indices in cases in which an applicant files applications for more than one project.

—Most or all of the detailed requirements related to (1) the procurement of school facilities under sections 9, 10, and 14 of the Act, (2) requests for construction under section 10 of the Act, (3) property management under sections 9 and 10 of the Act, (4) disposal of facilities provided under section 9 of the Act, and (5) transfer of title of federally owned school facilities under section 10 of the Act. This does not represent a change in policy. Rather, it is designed to remove from regulations provisions that the Secretary includes in deeds and other legal instruments covering these procedures.

• The proposed regulations would alter current provisions governing payments under section 10 of the Act by distinguishing between expenditures for the maintenance, repair, or upgrading of *existing* Federal facilities under the jurisdiction of the Secretary and assistance for the construction of *new* Federal facilities under section 10. The proposed regulations would eliminate a competitive selection process for grants to maintain, repair, or upgrade existing Federal facilities but would retain a competitive selection process for the construction of new facilities (see §§ 221.93 and 221.94).

• The proposed regulations would eliminate the Appendix of guidelines containing recommendations and suggestions for meeting the requirements of the Act and included in the CFR at the end of the current regulations for this program.

Significant Aspects of These Proposed Regulations

In proposing these regulations the Secretary wishes to draw the attention of readers to a number of matters that, the Secretary believes, would benefit from additional explanation, as follows:

Types of Children No Longer Eligible

The Act does not permit an applicant to count certain types of previously eligible children in any application submitted after September 30, 1983. The Secretary interprets this to mean any application submitted after the announced June 30, 1983, cutoff date for applications for assistance in fiscal year 1984 and beyond.

The types of children an LEA may no longer count are as follows:

• A child who resides on Federal property—other than Indian lands—but whose parent is neither on active duty in the uniformed services nor employed on Federal property (section 5(a)(2)(B) of the Act).

• A child who does not reside on Federal property even if the parent is on active duty in the uniformed services or is employed on Federal property (sections 5(a)(2)(A) and 5(a)(2)(C) of the Act).

• A child whose membership in the LEA results from an activity of the United States carried on either directly or through a contractor (section 5(a)(3) of the Act).

The types of children that an LEA may no longer count are, thus, excluded from the term "federally connected children" as that term is used in these proposed regulations.

Temporary Federal Activity

Section 9 of the Act provides for assistance if the membership of an LEA is increased as a result of a temporary Federal activity of one to six years' duration. The duration applies to the *Activity* and not to the time that any particular child is in the LEA's membership.

The LEA includes this type of child in establishing the LEA's *eligibility* under section 5 of the Act, in terms of the LEA's meeting minimum increase requirements. However, in providing *assistance* to the LEA, the Secretary distinguishes between a child identified under section 5 and a child identified under section 9.

Eligibility vs. Payment

An LEA may count all federally connected children in its membership to determine the minimum number or percentage of increase that establishes the LEA's *eligibility*. However, the number of children on which the Secretary bases *payment* to the LEA is determined by the provisions of various sections of the Act.

Factors that may affect payment include, among others: the increase in the number of federally connected children since the base year; the number of children for which the Secretary has not previously granted assistance under this program; the number of children in need of minimum school facilities; and the duration of the Federal activity with which children are associated.

Use of Preapplications

Readers should note that initial requests for assistance under this program—except for requests under section 10 of the Act—are made to the Secretary through preapplications. If the information included in a preapplication qualifies and LEA for assistance, and if the Secretary believes there will be sufficient funds for a grant, the Secretary invites the LEA to submit an application.

Applications under Section 14 of the Act

The Secretary funds an application under section 14 (a), (b), or (c) of the Act only if the Secretary is unable to provide the applicant with sufficient funds for its project under other sections of the Act. Thus, before considering a preapplication or an application under section 14, the Secretary considers the preapplication or application as though it has been submitted under another section; that is, under section 5, 8, or 9, as appropriate.

Use of Estimates

The Act authorizes assistance on the basis of *estimated* numbers of children. Initial estimates are made by an applicant and included in its preapplication. All data in the preapplication are subject to review and verification by the Secretary (1) before the Secretary makes a final determination regarding eligibility, and (2) at the time the Secretary approves a project.

Certification by SEAs

Several provisions of the Act require the Secretary to consult with respective SEAs in considering applications from LEAs. The Secretary believes that the intent of the consultative process within the context of the Act can be met expeditiously by requiring each applicant LEA to submit its application to its SEA for certification. The Secretary does not give consideration to a preapplication or an application that lacks this certification. In addition to certifying a preapplication or an application, an SEA is also free to comment on the document.

Measurements of School Facilities

It is important to distinguish between "facilities available to the LEA" and "minimum school facilities." Although

both terms are defined in § 221.5(c) of these proposed regulations, readers might find it helpful to note some differences. "Facilities available to the LEA" are school facilities that the LEA has or could obtain, as explained in the definition of that term in § 221.5(c). "Minimum school facilities" are facilities that the LEA needs to conduct an educational program that meets State requirements. Under the School Construction Program the Secretary provides assistance to help the LEA makeup the difference between facilities available to the LEA and facilities the LEA needs.

Ineligible Facilities

Certain types of school facilities are outside the definition of "minimum school facilities" and, therefore, may not be acquired with funds under the School Construction Program. Minimum school facilities are those facilities an LEA needs to carry out a school program only for the normal capacity of a given school. Thus, for example, the LEA may not use funds under this program to construct at the school—or elsewhere—a gymnasium, athletic field, auditorium, or other facility intended principally to serve or benefit the general public.

Similarly the LEA may not use funds under this program to construct that portion of a facility whose capacity or equipment exceeds the needs of the regular program and normal capacity of the school. For example, if the LEA wishes to construct a library for use by the general public, as well as by the pupils in a school, the LEA must finance that portion of the library—and any additional equipment—that exceeds the regular needs of the pupils in that school.

Assistance under Section 10 of the Act

Section 10 schools are the property of the U.S. Government. The Secretary provides assistance under this section of the Act for two types of needs: (1) the repair, maintenance, upgrading, or replacement of existing facilities, and (2) the construction of new, nonreplacement facilities. In the case of the former, the Secretary determines the extent and urgency of need and, in any given year, provides assistance to the extent possible. In the case of the latter, if funds are available, the Secretary invites requests—generally from other Federal agencies whose activities result in the presence of children needing school facilities—and establishes priorities among the requests received.

Executive Order 12291

These proposed regulations have been reviewed in accordance with Executve Order 12291.

They are classified as non-major because they do not meet the criteria for major regulations established in the Order.

Regulatory Flexibility Act

The Secretary certifies that these proposed regulations will not have a significant economic impact on a substantial number of small entities.

The small entities affected by these proposed regulations would be small LEAs; the number of LEAs funded under the program is not substantial; and the proposed regulations would not impose burdensome requirements on applicants or grantees.

Intergovernmental Review

This program is subject to the requirements of Executive Order 12372 and the regulations in 34 CFR Part 79 (48 FR 29158; June 24, 1983). The objective of the Executive Order is to foster an intergovernmental partnership and a strengthened federalism by relying on State and local process for State and local government coordination and review of proposed Federal financial assistance.

In accordance with the Order, this document is intended to provide early notification of the Department's specific plans and actions for this program.
Invitation to Comment

Invitation to Comment

Interested persons are invited to submit comments and recommendations regarding these proposed regulations. Written comments and recommendations may be sent to the address given at the beginning of this document. All comments submitted on or before December 14, 1984 will be considered before the Secretary issues final regulations.

The Secretary is especially interested in receiving from LEAs comments on the provisions of § 221.42 regarding information an LEA needs to support a preapplication and an application under this program and the methods the LEA may use to obtain this information. If an LEA believes that any of these requirements is unnecessarily burdensome, the Secretary invites suggestions as to how the burden might be reduced.

All comments submitted in response to these proposed regulations will be available for public inspection, during and after the comment period, in Room 2107, 400 Maryland Avenue, SW., Washington, D.C. between the hours of 8:30 a.m and 4:00 p.m., Monday through Friday of each week except Federal holidays.

To assist the Department in complying with the specific requirements of Executive Order 12291 and the Paperwork Reduction Act of 1980 and their overall requirement of reducing regulatory burden, public comment is invited on whether there may be further opportunities to reduce any regulatory burdens found in these proposed regulations.

Paperwork Reduction Act of 1980

The information collection requirements contained in these proposed regulations will be sent to OMB for review under the provisions of the Paperwork Reduction Act of 1980 (Pub. L. 96–511).

Information collection requirements are contained in the following sections: 221.10, 221.14, 221.15, 221.20, 221.21(d), (e); 221.24, 221.25, 221.28, 221.29, 221.32, 221.33, 221.36(a), b(2); 221.38, 221.40, 221.42, 221.43, 221.48, 221.49, and 221.63(b).

Comments that only concern information collection requirements should be addressed to the Office of Information and Regulatory Affairs, Office of Management and Budget, New Executive Office Building, Room 3208, 17th Street and Pennsylvania Avenue, NW., Washington, D.C. 20503. Attention: Desk Officer for the U.S. Department of Education.

All other comments regarding these proposed regulations should be sent to the Department of Education at the address given at the beginning of this preamble.

List of Subjects on 34 CFR Part 221

Education, Elementary and secondary education, Federally affected areas, Grant programs—education, Reporting and recordkeeping requirements, School construction.

Citation of Legal Authority

A citation of statutory or other legal authority is placed in parentheses on the line following each substantive provision of these proposed regulations.

Dated: October 9, 1984.

(Catalog of Federal Domestic Assistance No. 84.040, School Assistance in Federally Affected Areas—Construction)

T.H. Bell

Secretary of Education.

The Secretary proposes to revise Part 221 of Title 34 of the Code of Federal Regulations to read as follows:

PART 221—ASSISTANCE FOR SCHOOL CONSTRUCTION IN AREAS AFFECTED BY FEDERAL ACTIVITIES

Subpart A—General

Subpart B—What Are the Specific Eligibility Requirements for Assistance Under the School Construction Program?

Subpart C—How Does an LEA Apply for Assistance Under the School Construction Program?

Subpart D—How Does the Secretary Determine Priorities for Funding Among Eligible Applications?

Subpart E—How Much Assistance Is Available Under the Act?

Subpart F—What Conditions Must Be Met by a Grantee?

Subpart G—What Requirements Govern Administrative Hearings Under the School Construction Programs?

Subpart H—What Special Provisions Govern Assistance Under Section 10 of the Act?

Authority: Pub. L. 81–815, as amended, 64 Stat. 967 (20 U.S.C. 631–645), unless otherwise noted.

Subpart A—General

§ 221.1 Assistance for School Construction in Areas Affected by Federal Activities.

(a) The program of Assistance for School Construction in Areas Affected by Federal Activities—referred to in these regulations as the School Construction Program—provides Federal financial assistance to help local educational agencies (LEAs) construct urgently needed minimum school facilities in school districts that have been affected by various Federal activities.

(b)(1) Under the School Construction Program the Secretary—as authorized in section 10 of the Act (Pub. L. 81–815)—may also make arrangements with another Department or agency to provide minimum school facilities for certain federally connected children in cases in which no LEA is able to provide a suitable free public education for these children.

(2)(i) The provisions governing these arrangements are contained in Subpart H of these regulations.

(ii) These arrangements do not provide assistance directly to an LEA.

(20 U.S.C. 631–645, 647)

§ 221.2 Who is eligible under the School Construction Program?

(a) *Assistance.* (1) The types of LEAs listed in paragraphs (b) through (f) of this section are eligible for assistance under the School Construction Program.

(2) Each paragraph refers to a specific section of Pub. L. 81–815, entitled School Construction in Areas Affected by Federal Activities, referred to in these regulations as "the Act."

(b) *Eligibility under section 5.* (1) An LEA is eligible under section 5 of the Act because of an increased number of federally connected children.

(2) The requirements for eligibility under section 5 are contained in §§ 221.10 and 221.15 of these regulations.

(c) *Eligibility under section 9.* (1) An LEA is eligible under section 9 of the Act because a temporary Federal activity has caused an increase in the number of federally connected children.

(2) The requirements for eligibility under section 9 are contained in §§ 221.20 and 221.21.

(d) *Eligibility under section 14(a) and 14(b).* (1) An LEA is eligible under section 14(a) or 14(b) of the Act if it—

(i) Serves children residing on Indian lands; and

(ii) Has financial need.

(2) The requirements for eligibility under section 14(a)—including the criteria for determining financial need—are contained in §§ 221.24 and 221.25.

(3) The requirements for eligibility under section 14(b) are contained in §§ 221.28 and 221.29.

(e) *Eligibility under section 14(c).* An LEA is eligible under section 14(c) of the Act if—

(i) A substantial portion of the land area in the LEA's school district is Federal property; and

(ii) The LEA has financial need.

(2) The requirements for eligibility under section 14(c)—including the criteria for determining financial need—are contained in §§ 221.32 and 221.33.

(f) *Eligibility under section 8(1) and 8(2).* (1) An LEA is eligible for supplementary assistance under section 8 of the Act if the LEA has already established its eligibility under section 5, 9, or 14 of the Act.

(2) The requirements for eligibility under section 8(1) are contained in § 221.36.

(3) The requirements for eligibility under section 8(2) are contained in § 221.38.

(g) *Arrangements.* Another Department or agency is eligible to enter into an arrangement with the Secretary for the provision of minimum school facilities under section 10 of the Act if the requirements for an arrangement under § 221.90 are satisfied.

(20 U.S.C. 635, 638–640, 644)

§ 221.3 What regulations apply to the School Construction Program?

The following regulations apply to the School Construction Program:

(a) The Education Department General Administrative Regulations (EDGAR) as follows:

(1) 34 CFR Part 74 (Administration of Grants) except for the following:

(i) Section 74.94 (Payment methods under construction grants).

(ii) Subpart 0 (Property).

(2) 34 CFR Part 75 (Direct Grant Programs) except for the following:

(i) Section 75.603 (Grantee's title to site).

(ii) Section 75.605 (Beginning the construction).

(3) 34 CFR Part 77 (Definitions that Apply to Department Regulations) except for the following terms:

(i) "Local educational agency" (LEA).

(ii) "State."

(iii) "State educational agency" (SEA).

(4) 34 CFR Part 78 (Education Appeal Board) if the Secretary refers to the Education Appeal Board a request for an administrative hearing under section 11(a) of the Act.

(5) 34 CFR Part 79 (Intergovernmental Review of Department of Education Programs and Activities).

(b) The regulations in 34 CFR Part 218 (Hearings in Connection with School Construction and Financial Assistance in Federally Impacted Areas).

(c) The regulations in this Part 221.

(20 U.S.C. 3474)

§ 221.4 Under what circumstances may the Secretary waive or reduce requirements?

(a) The Secretary may waive or reduce certain requirements of this part—governing an LEA's eligibility to participate in the School Construction Program or limiting the amount of payment on LEA may receive under the program—if the Secretary determines that a waiver or reduction is necessary—

(1) To avoid inequity; and

(2) To avoid defeating the purposes of the Act.

(b) The general provisions that apply to the waiver or reduction of certain requirements are in § 221.43.

(c) The specific requirements that the Secretary may waive or reduce and the circumstances under which the Secretary may waive or reduce these requirements are identified in applicable provisions of this part.

(20 U.S.C. 635, 639, 644)

§ 221.5 What definitions apply to School Construction Program?

(a) *Definitions in the Act.* The following terms used in this part are defined in section 15 of the Act:

Base year
Child
Construct, Constructing, Construction
Federal property
Free public education
Increase period
Indian lands (included in the definition of "Federal property")
Local educational agency (LEA)
Low-rent housing (included in the definition of "Federal property")
Parent
School facilities
State
State educational agency (SEA)

(b) *Definitions in EDGAR.*

The following terms used in this part are defined in 34 CFR Part 77 (Definitions that Apply to Department Regulations):

Applicant
Application
Award
Department
EDGAR
Equipment
Fiscal year
Grant
Grantee
Project
Secretary
Work of art

(c) *Definitions that apply to this part.* The following definitions apply to this part:

"Attendance area" means the geographic area in which the children normally served by a school reside.

(20 U.S.C. 635(e), 644 (a), (b), (c))

"Average daily membership" means—

(1) The definition given to that term by State law; or

(2) If State law does not define the term, the total days of membership of all pupils in an LEA's schools divided by the total number of days the schools were in session.

(20 U.S.C. 645(5))

"Contracts-let-date" means the date of which the Secretary files with the Office of the Federal Register a notice setting a closing date for receipt of preapplications.

(20 U.S.C., 634)

"Facilities available to the LEA."

(1) This term means classrooms and related facilities, such as the following, which the Secretary considers in determining an LEA's need for assistance under this part:

(i) Existing school facilities constructed for educational purposes and currently suitable for instruction.

(ii) All school facilities for which a construction contract has been awarded before the contracts-let-date.

(iii) Facilities constructed or to be contructed, contracted for, or supported with financial assistance under any other grant under the Act—that is, under the School Construction Program or under the Program of School Construction Assistance in Cases of Certain Disasters (section 16 of the Act)—or under any other type of assistance.

(iv) Portable facilities used for instuction if—

(A) The facilities were purchased with funds under the Act; or

(B) The State counts the facilities as instructional facilities for the purpose of computing State construction aid.

(v) If the LEA is applying under section 8, 14(a), or 14(c) of the Act, potential facilities available to the LEA that could be built using, local, State, or other Federal sources, including other funds under the Act.

(2) This term does not mean—

(i) Areas unsuitable for education, such as hallways and basement rooms not constructed for educational purposes; and

(ii) Facilities that must be abandoned by the end of the second year following the increase period, for applicants under sections 5, 8(1), and 9, or by the end of the second year following the school year for which the applicant seeks assistance, for applicants under section 14.

(20 U.S.C. 631, 634, 645(10))

"Federally connected children" means those children whose inclusion in an LEA's membership results from a permanent or temporary Federal activity. Each of these children can be identified in one of the categories listed in § 221.11.

(20 U.S.C. 238(a), 644(a))

"Isolated" means, with reference to an attendance area, that distance, topography, climate, traffic conditions, or another factor makes it impracticable to transport children in that attendance area to other school facilities.

(20 U.S.C. 635(e), 644 (a), (b), (c))

"Membership."

(1) This term means—

(i) The definition given to the term by State law; or

(ii) If State law does not define the term, the number of children listed on an LEA's current enrollment records.

(2) As used in paragraph (1)(ii) of this definition, this term does not include children who have—

(i) Permanently left the LEA; or

(ii) Otherwise become ineligible to attend classes there.

(3) If a child resides in the school district of an LEA that pays tuition to another LEA in whose district the child attends school, the child is counted in—

(i) The membership of the LEA of the child's district of residence; or

(ii) If both LEAs agree and the Secretary approves, the membership of the LEA in whose district the child attends school.

(20 U.S.C. 645(5))

"Minimum school facilities."

(1) This term means those school facilitates for which the Secretary may provide assistance under this part if—

(i) The Secretary, after consultation with the SEA and the LEA, considers these facilities necessary to support an educational program—

(A) For the membership to be served at normal capacity; and

(B) In accordance with the laws and common practice in the State; and

(ii) To the extent appropriate in view of the uses to be made of the facilities, they are accessible to and usable by handicapped persons.

(2) The term includes, but is not restricted to—

(i) Classrooms and auxiliary rooms; and

(ii) Machinery, utilities, and initial equipment, to the extent that these are necessary or appropriate for school purposes.

(3) The Secretary also considers the term to include—

(i) Works of art at a cost that does not exceed one percent of the cost of the project;

(ii) Within school buildings, spaces that—

(A) Provide shelter from nuclear fallout; and

(B) Are constructed at a nominal cost as part of a larger project; and

(iii) In the case of an application under section 9 or 10 of the Act, off-site improvements and interests in land.

(20 U.S.C. 639, 640, 644, 645(9), (10), EO 11490)

"Non-Federal share" means that portion of a project's cost supplied by a source or sources other than the Secretary under this Act.

(20 U.S.C. 635)

"Normal capacity" means the number of pupils a school facility accommodates under ordinary conditions according to the laws and common practice of the State in which the facility is located.

(20 U.S.C. 634, 645(9), (10))

"Temporary," with reference to an activity, means an activity of the United States—

(1) Carried on either directly or through a contractor; and

(2) Continuing for at least one year but not more than six years.

(20 U.S.C. 635, 639)

"Unhoused children" means those children in an LEA's membership whose number exceeds the normal capacity of facilities available to the LEA.

(20 U.S.C. 634, 640, 644, 645(10))

"Uniformed services."

(1) This term means the Army, Navy, Air Force, Marine Corps, Coast Guard, National Oceanic and Atmospheric Administration, and Public Health Service.

(2) This definition applies to a uniformed service of the United States.

(20 U.S.C. 238(a)(2), 635(a) (1)(A), (2)(A); 37 U.S.C. 101)

Subpart B—What Are the Specific Eligibility Requirements for Assistance Under the School Construction Program?

Eligibility Under Section 5 of the Act

§ 221.10 What are the requirements for eligibility under section 5 of the Act?

(a) An LEA is eligible to receive Federal financial assistance under section 5 of the Act if the Secretary determines that, during an increase period—that is, a period of four consecutive school years—the LEA has experienced or will have experienced a substantial increase in the number of federally connected children.

(b) In calculating the increase in federally connected children the LEA shall meet the requirements of §§ 221.11 through 221.13.

(20 U.S.C. 635, 645(16))

§ 221.11 What children may be counted as federally connected?

An LEA may count as federally connected those children whom the LEA can identify in one or both of the two categories described in paragraphs (a) and (b) of this section. The statutory reference for each category appears in parentheses after the title of the category.

(a) *Category 1* (section 5(a)(1)(A) of the Act). A child is in category 1 if the child—

(1)(i) Resides on Federal property; and

(ii) Has a parent on active duty in the uniformed services; or

(2) Resides on Indian lands.

(b) *Category 2* (section 5(a)(1)(B) of the Act). A child is in category 2 if the child—

(1) Resides on Federal property; and

(2) Resides with a parent employed on Federal property situated in whole or in part in the same State as the school district of the LEA.

(c) In counting federally connected children for its eligiblity, an LEA may include—

(1) Children whose membership results from permanent Federal activities (eligibility under section 5 of the Act); and

(2) Children whose membership results from temporary Federal activities (eligibility under section 9 of the Act).

(Note.—Although an LEA in establishing its eligibility for assistance under section 5 of the Act may count children who qualify under section 9 of the Act, the Secretary does not include for payment under section 5 those children who qualify under section 9. See § 221.60(c)(1).)

(20 U.S.C. 238(a), 635(a))

§ 221.12 How does an LEA measure an increase?

(a) An LEA that claims an increase in federally connected children must show that the increase has occurred during an increase period.

(b) An increase in federally connected children is the difference between—

(1) The estimated number of federally connected children in the LEA's membership at the close of the increase period; and

(2) The estimated number of federally connected children in the LEA's average daily membership during the base year; that is, during the school year immediately preceding the first year of the increase period.

Example. If the increase period covers the four consecutive school years of 1980–81, 1981–82, 1982–83, and 1983–84, the base year would be 1979–80.

(20 U.S.C. 634, 635)

§ 221.13 What is the required minimum increase in the number or percentage of an LEA's federally connected children?

To be eligible for assistance under section 5 of the Act, an LEA must have at the close of an increase period, an estimated increase of—

(a) At least 20 federally connected children, constituting at least 6 percent of the LEA's total average daily membership during the base year; or

(b) At least 1,500 federally connected children, if the estimated increase constitutes less than the 6 percent required in paragraph (a) of this section.

(20 U.S.C. 635 (a), (b), (c))

§ 221.14 Under what circumstances may an LEA request a waiver or reduction of the minimum increase in the number of federally connected children?

(a) In applying for assistance under this part, an LEA may request a waiver or reduction of the requirement in § 221.13(a) that, at the end of the increase period, the LEA have an increase of at least 20 federally connected children.

(b) The Secretary considers the request for a waiver or reduction if the LEA meets the following conditions:

(1) The LEA has an isolated attendance area that is affected by Federal activity.

(2) The estimated increase in the number of the LEA's federally connected children at the end of the increase period is at least 25 percent of the LEA's total average daily membership in the base year.

(3) At the end of the increase period, the LEA will have in its membership federally connected children residing in the isolated attendance area who lack minimum school facilities.

(c) The general provisions that apply to this waiver or reduction are in § 221.43.

(20 U.S.C. 635 (c), (e))

§ 221.15 Under what circumstances may an LEA request a waiver or reduction of the minimum percentage increase in the number of federally connected children?

(a) In applying for assistance under this part, an LEA may request a waiver or reduction of the requirement in § 221.13(a) that, at the end of the increase period, the LEA have an increase of at least 6 percent of its total average daily membership during the base year.

(b) The Secretary considers the request for a waiver or reduction if the LEA meets the following conditions:

(1) The LEA has an isolated attendance area that is affected by Federal activity.

(2) The estimated increase in federally connected membership in the isolated attendance area at the end of the increase period is at least 10 percent of the total average daily membership in the isolated attendance area during the base year.

(3) At the end of the increase period, the LEA will have in its membership federally connected children residing in the isolated attendance area who lack minimum school facilities.

(c) The general provisions that apply to this waiver or reduction are in § 221.43.

(20 U.S.C. 635)

Eligibility Under Section 9 of the Act

§ 221.20 What are the requirements for eligibility under section 9 of the Act?

An LEA is eligible to receive Federal financial assistance under section 9 of the Act if—

(a) During an increase period the LEA has experienced a substantial increase in the number of federally connected children; and

(b) The Secretary determines that some or all of these children are in the LEA's membership because of a temporary Federal activity.

(20 U.S.C. 639)

§ 221.21 What other requirements apply to eligibility under section 9?

The following provisions of this part also govern the eligibility of an LEA for Federal financial assistance under section 9 of the Act:

(a) Section 221.11: What children may be counted as federally connected?

(b) Section 221.12: How does an LEA measure an increase?

(c) Section 221.13: What is the required minimum increase in the number or percentage of an LEA's federally connected children?

(d) Section 221.14: Under what circumstances may an LEA request a waiver or reduction of the minimum increase in the number of federally connected children?

(e) Section 221.15: Under what circumstances may an LEA request a waiver or reduction of the minimum percentage increase in the number of federally connected children?

(20 U.S.C. 635, 639)

Eligibility Under Section 14(a) of the Act

§ 221.24 What are the requirements for eligibility under section 14(a) of the Act?

An LEA is eligible to receive Federal financial assistance under section 14(a) of the Act if it meets the following requirements:

(a) The LEA is providing, or will be providing on completion of the project, free public education to children in its membership who reside on Indian lands.

(b) The LEA is not eligible, under either section 5 or section 9 of the Act, for enough Federal financial assistance to provide minimum school facilities.

(c) Any one of the following three conditions exists:

(1) At least 15 of the LEA's children, constituting at least 33⅓ percent of the LEA's total membership, reside on Indian lands.

(2) The land area of Indian lands constitutes at least one-third of the total land area of the LEA's school district.

(3) The LEA is providing, or will be providing on completion of the project, free public education for at least 100 children residing on Indian lands outside the boundaries of the LEA's school district.

(d) The immunity of Indian lands to taxation creates a substantial and continuing impairment of the LEA's ability to finance needed school facilities.

(e) The LEA is making a reasonable tax effort and is diligently making use of State and other available financial assistance to provide the needed facilities.

(f) Despite full use of the facilities available to it, the LEA lacks the resources to provide minimum school facilities for at least 5 percent of the estimated number of children who will be in the LEA's membership at the end of the second year following the school year for which the applicant seeks assistance.

(20 U.S.C. 644(a))

§ 221.25 What requirements for eligibility under section 14(a) are subject to waiver or exemption?

(a) *Waiver.* The Secretary considers a request for a waiver of the 33⅓ percent requirement in § 221.24(c)(1) if an LEA meets the following three requirements:

(1) The LEA has an isolated attendance area that includes children who reside on Indian lands.

(2) The LEA is providing, or will be providing on completion of the project, free public education in this isolated attendance area to at least 15 children residing on Indian lands and constituting at least 20 percent of the LEA's total membership.

(3) The land area of Federal property constitutes at least 80 percent of the total land area of the LEA's school district.

(b) *General provisions.* The general provisions that apply to this waiver are in § 221.43.

(c) *Exemption.* The LEA does not have to meet the condition described in § 221.24(d) if the LEA is providing free public education for at least 100 children residing on Indian lands outside the boundaries of the LEA's school district.

(20 U.S.C. 644(a))

Eligibility Under Section 14(b) of the Act

§ 221.28 What are the requirements for eligibility under section 14(b) of the Act?

An LEA is eligible to receive Federal financial assistance under section 14(b) of the Act if it meets the following requirements:

(a) The requirements of § 221.24 (a), (b), and (d).

(b) Any one of the following three conditions exists:

(1) At least 15 of the LEA's children, constituting at least 10 percent of the LEA's total membership, reside on Indian lands.

(2) The land area of Indian lands constitutes at least 10 percent of the total land area of the LEA's school district.

(3) The LEA is providing, or will be providing on completion of the project, free public education for at least 100 children residing on Indian lands outside the boundaries of the LEA's school district.

(20 U.S.C. 644(b))

§ 221.29 What requirements for eligibility under section 14(b) are subject to waiver or exemption?

(a) *Waiver.* The Secretary considers a request for a waiver of the 10 percent requirement in § 221.28(b)(1) if an LEA meets the following three requirements:

(1) The LEA has an isolated attendance area that includes children who reside on Indian lands.

(2) The LEA is providing, or will be providing on completion of the project, free public education in this isolated attendance area to at least 15 children residing on Indian lands and constituting at least 5 percent of the LEA's total membership.

(3) The land area of Federal property constitutes at least 20 percent of the total land area of the LEA's school district.

(b) *General provisions.* The general provisions that apply to this waiver are in § 221.43.

(c) *Exemption.* The LEA does not have to meet the condition described in § 221.24(d) if the LEA is providing free public education for at least 100 children residing on Indian lands outside the boundaries of the LEA's school district.

(20 U.S.C. 644(b))

Eligibility Under Section 14(c) of the Act

§ 221.32 What are the requirements for eligibility under section 14(c) of the Act?

An LEA is eligible to receive Federal financial assistance under section 14(c) of the Act if it meets the following requirements:

(a) The requirements of § 221.24 (b), (e), and (f).

(b) The land area of Federal property constitutes at least 33⅓ percent of the total land area of the LEA's school district.

(c) At least 20 of the LEA's children, constituting at least 33⅓ percent of the LEA's total membership, lack or will lack minimum school facilities.

(d) The immunity of Federal property to taxation creates a substantial and continuing impairment of the LEA's ability to finance needed school facilities.

(20 U.S.C. 644(c))

§ 221.33 What requirement for eligibility under section 14(c) is subject to waiver?

(a) The Secretary considers a request for a waiver of the 33⅓ percent requirement in § 221.32(c) if an LEA meets the following three requirements:

(1) The LEA has an isolated attendance area with children who lack minimum school facilities.

(2) The LEA is providing, or will provide free public education in this isolated attendance area to at least 20 children lacking minimum school facilities and constituting at least 20 percent of the LEA's total membership.

(3) The land area of Federal property constitutes at least 80 percent of the total land area of the LEA's school district.

(b) The general provisions that apply to this waiver are in § 221.43.

(20 U.S.C. 644(c))

Eligibility Under Section 8(1) of the Act

§ 221.36 What are the requirements for eligibility under section 8(1) of the Act?

(a) If the Secretary makes available supplemental Federal financial assistance under section 8(1) of the Act, an LEA is eligible to receive this assistance if the LEA—

(1) Is eligible to receive a grant under section 5 of the Act; and

(2) Has not received the grant because of its inability to finance the non-Federal share of the proposed project.

(b) In determining the LEA's eligibility under section 8(1), the Secretary requires that the LEA meet at least the following conditions:

(1) The LEA's eligibility under sections has not been achieved by reason of a waiver or reduction under § 221.14 or 221.15.

(2) The LEA demonstrates to the satisfaction of the Secretary that it is fully using or will fully use all other facilities available to the LEA.

(3)(i) The estimated number of the LEA's federally connected children who may be counted for payment is at least 12 percent of the LEA's average daily membership in the base year.

(ii) However—

(A) If the LEA has used one year of the increase period as a basis for payment under a previous application under the Act, the percentage requirement under paragraph (b)(3)(i) of this section is at least 9 percent;

(B) If the LEA has used two years of the increase period as a basis for payment under a previous application under the Act, the percentage requirement under paragraph (b)(3)(i) of this section is at least 6 percent; and

(C) If the LEA has used three years of the increase period as a basis for payment under a previous application under the Act, the percentage requirement under paragraph (b)(3)(i) of this section is at least 3 percent.

Example. An LEA submits a preapplication for Federal financial assistance under section 8(1) of the Act to supplement a grant under section 5 of the Act, based on an increase period consisting of the following school years: 1980–81, 1981–82, 1982–83, 1983–84. During the base year (1979–80), the LEA's average daily membership was 3,750. Under paragraph (b)(3)(i) of this section, the estimated number of the LEA's federally connected children who may be counted for payment would have to be at least 450 children; that is, at least 12 percent of the LEA's average daily membership in the base year.

However, in this example, the same LEA has previously submitted another eligible preapplication under section 5 of the Act for an increase period consisting of the following school years: 1978–79, 1979–80, 1980–81 and 1980–82. This means that the LEA is using in its current preapplication two of the same school years (1980–81 and 1981–82) used as a basis for payment under its previous preapplication. Thus, under paragraph (b)(3)(ii)(B) of this section, the estimated number of the LEA's federally connected children who may be counted for payment under the current reapplication must be at least 225; that is, at least 6 percent of the LEA's average daily membership in the base year.

(20 U.S.C. 635, 638)

Eligibility Under Section 8(2) of the Act

§ 221.38 What are the requirements for eligibility under section 8(2) of the Act?

If the Secretary makes available supplemental Federal financial assistance under section 8(2) of the Act, an LEA is eligible to receive this assistance if—

(a) The LEA has received a grant under section 5, 8, 9, or 14 of the Act;

(b) The LEA is unable to complete the project because of flood, fire, or similar emergency affecting—

(1) The work on the project; or

(2) The LEA's ability to finance the non-Federal share of the project; and

(c) The LEA demonstrates to the satisfaction of the Secretary that it is fully using or will fully use all other facilities available to the LEA.

(20 U.S.C. 635, 638)

Subpart C—How Does an LEA Apply for Assistance Under the School Construction Program?

§ 221.40 What are the general requirements for submitting a preapplication and an application under the School Construction Program?

(a) To be considered for assistance under the School Construction Program, except in the case of an application under section 8(2) of the Act, an LEA must submit to the Secretary—

(1) A preapplication; and

(2) If invited by the Secretary—on the basis of the likelihood of funding—an application that meets the requirements of section 6(b)(1) of the Act.

(b)(1) The Secretary publishes in the Federal Register a notice that establishes a closing date for the receipt of preapplications.

(2) If the Secretary invites an LEA to submit an application under this part, the Secretary establishes in the letter of invitation a closing date for the receipt of the application.

(c)(1) The LEA shall submit its preapplication and its application to the Secretary through its State educational agency (SEA).

(2) The LEA shall submit its preapplication or application to its SEA at least 15 days before the deadline date for submitting the preapplication or application to the Secretary.

(d) The requirements for submitting an application under section 8(2) of the Act are in § 221.48

(20 U.S.C. 636)

§ 221.41 During what year must an LEA file its preapplication?

(a) In order to be considered for assistance under section 5, 9, or 8(1) of the Act, an LEA must submit its preapplication during the third or fourth year of an increase period; that is, during the third or fourth year following the base year selected by the LEA.

Example. An LEA submits a preapplication for Federal financial assistance under section 5, 9, or 8(1) of the Act for an increase period consisting of the following school years: 1980–81, 1981–82, 1982–83, 1983–84. The base year for this application is 1979–80. To be considered for assistance, the LEA must submit its preapplication during the 1982–83 school year (the third year of the increase period) or during the 1983–84 school year (the fourth year of the increase period).

(b) During the same school year an LEA may submit preapplications—under section 5, 9, or 8(1) of the Act—related to two different base years.

Example. During 1982–83, the third year of the increase period, an LEA may submit a preapplication for Federal financial assistance under section 5, 9, or 8(1) of the Act for an increase period consisting of the following school years: 1980–81, 1981–82, 1982–83, 1983–84, with 1979–80 as the base year.

During the same year, 1982–83, the fourth year of another increase period, the LEA may submit a preapplication for Federal financial assistance under section 5, 9, or 8(1) of the Act for an increase period consisting of the following school years: 1979–80, 1980–81, 1981–82, 1982–83, with 1978–79 as the base year.

Thus, in 1982–83, the LEA may submit a preapplication related to base year 1979–80 and a preapplication related to base year 1978–79.

(c) In order to be considered for assistance under section 14 (a), (b) or (c) of the Act, an LEA must submit its preapplication during the first or second school year before the school year for which it seeks assistance.

Example. An LEA estimates that it will qualify for assistance under section 14(a), 14(b), or 14(c) of the Act during the 1985–86 school year. The LEA must apply for assistance during the 1983–84 school year or the 1984–85 school year.

(20) U.S.C. 635, 638, 639, 644, 645(15))

§ 221.42 What information does an LEA need to support a preapplication and an application under the School Construction Program?

(a) During the year in which it submits its preapplication, an LEA shall—

(1) Determine the number of children in its membership; and

(2) Identify the number of children in the membership who are federally connected.

(b)(1) The determination or identification made by the LEA under paragraph (a) of this section shall be as of the same date throughout the LEA's school district.

(2) This date shall be during the regular school year at a time before the closing date for the transmittal of applications.

(c) In identifying federally connected children the LEA may collect whatever information the LEA needs to—

(1) Establish the LEA's eligibility under the School Construction Program; and

(2) If necessary, substantiate factors that might affect the amount of payment to the LEA under the program.

(d) For each federally connected child identified by the LEA, the information referred to in paragraph (c) of this section must include the following:

(1) Name.

(2) Date of birth.

(3) School in which enrolled.

(4) Grade in school.

(5)(i) The name and address of the Federal property on which the child

resides, including Indian land if applicable; and

(ii) In the case of low-rent housing under the United States Housing Act of 1937, the identification number assigned to that housing by the U.S. Department of Housing and Urban Development.

(6) If the child is federally connected because the child has a parent on active duty in a uniformed service—

(i) The parent's name;

(ii) The parent's rank;

(iii) The name of the uniformed service; and

(iv) An attestation of the parent's active duty status.

(7) If the child is federally connected because the child resides with a parent employed on Federal property situated in whole or in part in the same State as the school district of the LEA—

(i) The parent's name; and

(ii)(A) The name and address of the Federal property where the parent is employed; or

(B) If the parent is a civilian employed on a Federal vessel, the name, hull number, and home port of the vessel and the name of the controlling agency.

(e) The LEA may obtain the information in paragraph (d)(5) of this section from any of the following:

(1) A parent of the child.

(2) An appropriate official of the Federal installation on which the child resides or of the Federal housing in which the child resides.

(3) If applicable, an appropriate tribal official.

(f) The LEA may obtain the information in paragraph (d)(6) of this section from either or both of the following:

(1) A parent of the child.

(2) An appropriate official of the uniformed service in which the parent is on active duty.

(g) The LEA may obtain the information in paragraph (d)(7) of this section from either or both of the following:

(1) A parent of the child.

(2) The employer of the parent employed on Federal property.

(h) The LEA shall obtain from the source or sources of information referred to in paragraphs (e), (f), and (g) of this section—

(1) The sources's signature; and

(2) The date of signing.

(i) In identifying federally connected children the LEA may meet the requirements of paragraphs (d) through (h) of this section by means of the parent-pupil survey used by the LEA that same school year to identify federally connected children under 34 CFR Part 222 (Assistance for Local Educational Agencies in Areas Affected by Federal Activities and Arrangements for Education of Children Where Local Educational Agencies Cannot Provide Suitable Free Public Education).

(j) The Secretary may require the LEA to update any of the information referred to in this section at the time the LEA files its application.

(k) For purposes of this section, "parent" means—

(1) Mother;

(2) Father;

(3) Legal guardian; or

(4) Another person standing in place of the parent.

(20 U.S.C. 238, 635)

§ 221.43 What general provision apply to a request for a waiver or reduction of certain requirements?

(a) If an LEA seeks a waiver or reduction of a requirement of these regulations for which the Secretary may grant a waiver or reduction, the LEA shall submit its request as a separate document together with its preapplication.

(b) The LEA shall—

(1) State in the request the specific requirement(s) for which the LEA seeks the waiver or reduction; and

(2) Include in the request information the Secretary requires to determine whether the waiver or reduction is warranted.

(c) The Secretary determines—

(1) The extent of any waiver or reduction; and

(2) The portion of the LEA's jurisdiction for which the LEA receives assistance as a result of the waiver or reduction.

(20 U.S.C. 635(e), 639, 644 (a), (b), (c))

§ 221.44 What information must an SEA certify?

(a) *Preapplication.* In transmitting a preapplication from an LEA to the Secretary, an SEA must certify that, to the best of the SEA's knowledge, the information in the preapplication is accurate and complete.

(b) *Application.* In transmitting an application from an LEA to the Secretary, an SEA must certify that the proposed project is not inconsistent with overall State plans for the construction of school facilities.

(20 U.S.C. 636)

§ 221.45 What procedures does an SEA follow in certifying a preapplication or an application?

(a) The deadline dates for the receipt of SEA certifications are the same dates the Secretary establishes under § 221.40(b) for the receipt of preapplications and applications from LEAs.

(b) If the SEA certifies a preapplication or application, the appropriate SEA official shall—

(1) Sign a statement that certifies the document; and

(2) Submit the document and the statement by the deadline date for certification. The procedures in EDGAR, 34 CFR 75.102 (Deadline date for applications), apply to this submission.

(c)(1) If an SEA certifies a preapplication and an application on or before the appropriate deadline dates for SEA certification, the Secretary may select that project for a grant.

(2) If an SEA does not certify a preapplication or an application on or before the appropriate deadline dates for SEA certification, the Secretary does not select that project for a grant.

(20 U.S.C. 3474)

§ 221.46 How may an SEA comment on a preapplication or an application?

(a) An SEA that receives a preapplication or an application under this part may review and comment on the preapplication or application in addition to making the certification under § 221.44.

(b) In commenting on the LEA's preapplication or application, the SEA shall follow the provisions in EDGAR for State Comment Procedures (34 CFR 75.155 through 75.160).

(c)(1) The Secretary encourages the SEA to submit its comments, if any, together with the certified preapplication or application when the SEA forwards that document to the Secretary.

(2) If the SEA submits its comments to the Secretary separately from the certified preapplication or application, the SEA shall meet the requirements of 34 CFR 75.158 (Deadlines for State comments).

(20 U.S.C. 636, 645)

§ 221.47 What types of comments does the Secretary consider?

In evaluating an LEA's preapplication or application under this part, the Secretary considers—in addition to the provisions of 34 CFR 75.159(a)—those comments of an SEA that relate to—

(a) Any criteria or other matters that could affect the Secretary's approval of the preapplication or application;

(b) Any State laws or practices related to the construction of school facilities in the State; and

(c) Whether the proposed project is consistent with overall State plans for the construction of school facilities.

(20 U.S.C. 636)

§ 221.44 What are the requirements for submitting an application under section 8(2) of the Act?

(a) In the case of an application for assistance under section 8(2) of the Act—

(1) The Secretary considers the LEA's certified preapplication and application for the original project funded under section 5, 9, 14, or 8(a) as meeting the requirement for submission of a preapplication; and

(2) The LEA shall submit to the Secretary an application only.

(b) The LEA may submit its application at any time.

(c) The LEA shall submit its application to the Secretary through its SEA.

(d)(1) In transmitting the application to the Secretary, the SEA shall follow the appropriate provisions of § 221.45.

(2) The SEA may also comment on the application according to the provisions of § 221.46.

(20 U.S.C. 636, 638)

§ 221.49 What general requirements apply to changes in an LEA's legal organization or jurisdiction?

(a) An LEA shall notify the Secretary of any changes in its legal organization or jurisdiction that—

(1)(i) Occur during the application process; or

(ii) Have occurred since the LEA's filing of its most recent previous application, if any, under the Act; and

(2) Would affect the LEA's rights or benefits under the Act.

(b)(1) If an LEA succeeds to any part of the territory of one or more other LEAs that have filed applications under the Act, the successor LEA may assume any rights and benefits that those applications have established with respect to the transferred territory if the successor LEA—

(i) Demonstrates to the Secretary that its succession to the territory and any affected property meets all requirements of State Law; and

(ii) Agrees to be bound by all assurances and obligations under this part undertaken by the LEA(s) that filed the application(s).

(2) The successor LEA may not receive under those applications rights and benefits that are greater than the total rights and benefits established by the application(s).

(20 U.S.C. 636)

Subpart D—How Does the Secretary Determine Priorities for Funding Among Eligible Applications?

§ 221.50 What priorities does the Secretary apply?

If the amount of money estimated to be necessary to fund all eligible applications and requests is more than the amount the Congress appropriates for the School Construction Program for a fiscal year, the Secretary applies the following priorities for funding applications:

(a) *First priority.* (1) The first priority is full funding of all eligible applications and requests under sections 9, 10, and 14 (a) and (b) of the Act.

(2) If the Secretary is unable to provide full funding of all eligible applications and requests under sections 9, 10, and 14 (a) and (b), the Secretary—

(i) Group preapplications under each of these three sections of the Act;

(ii) Except as specified in paragraph (a)(3) of this section, allocates to each group of preapplications funds in the ratio of (1) the total amount requested by all applicants in that group to (2) the total amount requested by all applicants in all groups.

(3) If the Secretary is unable to provide full funding of all eligible projects under sections 14 (a) and (b), the Secretary provides total funds for those projects at least equal to funds provided for projects under section 10.

(4)(i) In the case of preapplications under sections 9 and 14 (a) and (b), the Secretary assigns priority within each group in accordance with § 221.51.

(ii) However, if an applicant submitting a preapplication under section 9 does not have in its membership at least 20 unhoused children, the Secretary assigns a priority index of zero (0) to the preapplication.

(5) In the case of requests under section 10, the Secretary computes priority in accordance with § 221.94.

(b) *Second priority.* (1) The second priority is—

(i) Full funding of all eligible applications under sections 5 and 14(c) of the Act; and

(ii) Full funding of all eligible applications under section 8 of the Act if, for that year, the Secretary makes available supplemental assistance under section 8.

(2) If the Secretary is unable to provide full funding of all eligible applications under sections 5 and 14(c) and full funding of all eligible applications under section 8—if the Secretary makes available supplemental assistance under section 8—the Secretary applies the procedures in paragraphs (b)(3) and (b)(4) of this section.

(3) In the case of preapplications under sections 5, 8(1), and 14(c), the Secretary—

(i) Considers all of the preapplications as one group;

(ii)(A) Assigns priority in accordance with § 221.51.

(B) However, if an LEA submitting a preapplication under section 5, 8(1), or 14(c) does not have in its membership at least 20 unhoused children, the Secretary assigns a priority index of zero (0) to the preapplication; and

(iii) After fully funding all indexed applications—including those assigned an index of zero—gives consideration to making payments based on any increases in the number of children residing on property that is federally assisted low-rent housing under the United States Housing Act of 1937.

(4) In the case of applications under section 8(2), the Secretary—

(i) Assigns to each application the same priority index as that assigned to the original preapplication for that project;

(ii) Ranks each application in descending order of priority starting from the highest index, together with the group of preapplications under sections 5, 8(1), and 14(c); and

(iii) Holds until the next quarter of a fiscal year in which funds become available, all eligible applications the Secretary is unable to fund.

(c) The Secretary does not award any funds to applications in the second priority unless the Secretary is able to provide full funding of all eligible applications in the first priority.

(d) The Secretary reserves the right to fund eligible applications under section 16 of the Act (School Construction Assistance in Cases of Certain Disasters) regardless of the priority assigned by the Secretary under this section to any other preapplication.

(20 U.S.C. 632, 633, 636(b)(2)(C), 644 (e), (h))

§ 221.51 How does the Secretary compute priority indices and rank preapplications?

(a)(1) If the Secretary is unable to provide full funding of all applications in each group of applications under section 5, 8(1), 9, or 14 of the Act, the Secretary—

(i) Computes or assigns a priority index for each preapplication according to the provisions of §§ 221.50 and 221.51;

(ii) Ranks each preapplication in descending order of priority starting from the highest index; and

(iii) Funds applications in accordance with § 221.64.

(2) If the Secretary is unable to provide full funding of all requests under section 10 of the Act, the Secretary computes or assigns a priority index for each request according to the applicable provisions of § 221.50 and the provisions of § 221.94.

(b)(1)(i) In computing or assigning a priority index, the Secretary uses or refers to data included in the preapplication.

(ii) Before actually funding a project the Secretary may refer to the most recently available data and other information to confirm an applicant's priority index and ranking.

(2) The membership figures the Secretary uses in computing the priority index are the estimated figures as of the end of the increase period or, in the case of a preapplication under section 14 (a) or (b), as of the end of the school year for which the LEA seeks assistance.

(3)(i) The figures the Secretary uses are those for the LEA as a whole.

(ii) However, if the preapplication is for an isolated attendance area, the Secretary uses the figures for that area only.

(c) The steps the Secretary uses in computing the priority index are as follows:

(1) *Step 1.* (i) The Secretary divides—

(A) The number of children countable for payment; by

(B) The total membership.

(ii) As used in this section and in § 221.52, the term "children countable for payment" includes children residing on property that is federally assisted low-rent housing under the United States Housing Act of 1937, even though those children are not eligible for payment unless the Secretary is able to provide full funding of all eligible applications in the second priority (§ 221.50(b)).

(2) *Step 2.* (i) The Secretary divides—

(A) The number of all unhoused children; by

(B) The total membership.

(ii) However, the Secretary limits the result of Step 2 to a number that does not exceed the result of Step 1. (See Example 2)

(3) *Step 3.* The Secretary adds—

(i) The result of Step 1; to

(ii) The result of Step 2.

(4) *Step 4.* The Secretary multiplies the result of Step 3 by 100.

Example 1. An LEA has a total membership of 1,000 pupils. Of that number, 200 are children countable for payment. Within the LEA 125 children are unhoused. This includes those who are federally connected and those who are not federally connected. In following the steps described in paragraph (c) of this section, the Secretary computes the priority index as follows:

Step 1. 200 divided by 1,000 equals 0.2.

Step 2. 125 divided by 1,000 equals 0.125.

Step 3. 0.2 plus 0.125 equals 0.325.

Step 4. 0.325 multiplied by 100 equals 32.5

Thus, the preapplication has an index of 32.5. The Secretary compares that index with the indices of all other preapplications in the same group and ranks the preapplications in descending order beginning with the preapplication with the highest index.

Example 2. An LEA has a total membership of 2,000 pupils. Of that number, 400 are children countable for payment. Within the LEA 500 children are unhoused. This includes those who are federally connected and those who are not federally connected. In following the steps described in paragraph (c) of this section, the Secretary computes the priority index as follows:

Step 1. 400 divided by 2,000 equals 0.2.

Step 2. 500 divided by 2,000 equals 0.25. However, in order to ensure that a priority index is not distorted by large numbers of unhoused children who are not federally connected, the Secretary limits the result of Step 2 to a number that does not exceed the result of Step 1. Therefore, the result of Step 2 is limited to 0.2.

Step 3. 0.2 plus 0.2 equals 0.4.

Step 4. 0.4 multiplied by 100 equals 40.0.

Thus, this preapplication has an index of 40.0.

(20 U.S.C. 633, 635, 638, 639, 644)

§ 221.52 What procedures does the Secretary follow if two or more preapplications in the same group have identical indices?

Except for requests eligible under section 10 of the Act, if two or more preapplications in a group have identical indices—including preapplications with an index of zero—the Secretary ranks these preapplications in descending order of sub-priority indices computed according to the following steps:

(a) *Step 1.* The Secretary divides—

(1) The number of children countable for payment; by

(2) The total membership.

(b) *Step 2.* The Secretary multiplies the result of Step 1 by 100.

Example. Two LEAs that have filed preapplications under section 9 of the Act have identical indices of 35.5, computed according to the steps in § 221.51(c). In order to determine which preapplication ranks higher, the Secretary applies the steps in this § 221.52.

One of the LEAs has a total membership of 1,000 pupils. Of that number 200 are children countable for payment. Following the steps described in this section, the Secretary computes the sub-priority index for this preapplication as follows:

Step 1. 200 divided by 1,000 equals 0.2.

Step 2. 0.2 multiplied by 100 equals 20.0.

Thus, this preapplication has a sub-priority index of 20.0.

The other LEA has a total membership of 1,300 pupils. Of that number, 233 are children countable for payment. Following the steps described in this section, the Secretary computes the sub-priority index for this preapplication as follows:

Step 1. 233 divided by 1,300 equals 0.179.

Step 2. 0.179 multiplied by 100 equals 17.9. Thus, this preapplication has a sub-priority index of 17.9.

The Secretary then compares the two sub-priority indices of 20.0 and 17.9 and gives a higher rank to the preapplication from the LEA with a total membership of 1,000, including 200 children countable for payment; that is, the preapplication with the sub-priority index of 20.0.

(20 U.S.C. 633)

§ 221.53 What effect may a delay in the starting date of construction have on an applicant's priority ranking?

(a) If the Secretary approves an application for funding during a particular funding cycle, the applicant shall begin constrution of the project within 120 calendar days of notification of the Secretary's approval.

(b) If the applicant does not begin construction within 120 days, the Secretary may—

(1) Extend the time if the applicant shows good cause to the Secretary; or

(2) Drop the application from that funding period and consider it in the next funding period—

(i) At the same priority index; or

(ii) At a priority index computed on the basis of new data.

(20 U.S.C. 633, 636(b)(1)(D))

Subpart E—How Much Assistance Is Available Under the Act?

§ 221.60 What assistance may the Secretary make available under section 5 of the Act?

(a) If an LEA is eligible for a grant under section 5 of the Act, as described in § 221.10, the Secretary may grant an amount in accordance with the provisions of section 5.

(b) The Secretary does not grant an amount that exceeds the cost of constructing, in the LEA's school district, minimum school facilities for the estimated membership in the district who—despite the full use of facilities available to the LEA— will lack minimum school facilities at the close of the second year following the increase period.

(c) In computing the amount of the grant, the Secretary does not include—

(1) Children whose membership in the LEA's school district the Secretary determines to be the result of a temporary Federal activity and who, therefore, are countable for payment under section 9 of the Act; and

(2) Children who receive or will receive services in facilities provided under section 10 of the Act.

(d) If the Secretary approves a request for a waiver or reduction under §§ 221.14 or 221.15 because an LEA has within it an isolated attendance area or areas, the Secretary limits the LEA's grant to an amount based on the lesser of—

(1) The increase in federally connected children eligible for payment in the LEA as a whole at the end of the increase period; and

(2) The increase in federally connected children eligible for payment in the same increase period.

(20 U.S.C. 634, 635, 639, 640)

§ 221.61 What assistance may the Secretary make available under section 9 of the Act?

(a) If an LEA is eligible for assistance under section 9 of the Act, as described in §§ 221.20 and 221.21, the Secretary may—

(1) Provide temporary facilities needed by the federally connected children who lack minimum school facilities and whose membership in the LEA's school district the Secretary determines is the result of a temporary Federal activity; or

(2) If the LEA assures the Secretary that it will provide at least minimum school facilities for these children, grant to the LEA an amount equal to the amount necessary to make temporary facilities available.

(b) In no case does the Secretary grant an amount that exceeds the cost of constructing, in the LEA's school district, minimum school facilities for these children.

(c) If the Secretary decides to transfer to the LEA facilities to carry out section 9 of the Act or facilities that have been used to carry out section 9, the Secretary establishes the terms and conditions of the transfer.

(20 U.S.C. 635, 639)

§ 221.62 What assistance may the Secretary make available under section 14 of the Act?

(a)(1) If an LEA is eligible for a grant under section 14(a) or (14(c) of the Act, as described in §§ 221.24 and 221.32 respectively, the Secretary may grant an amount that does not exceed the cost of constructing minimum school facilities for the estimated number of children who—

(i) Will be in the LEA's membership two years after the end of the school year for which the applicant seeks assistance; and

(ii) Despite the full use of facilities available to the LEA, will lack minimun school facilities unless a grant is made.

(2) The Secretary counts for payment under paragraph (a)(1) of this section the estimated number of all unhoused children who will be in the LEA's membership, not only those children who reside on Federal property, including Indian lands.

(3) The Secretary does not grant an amount that exceeds the difference between—

(i) The cost of constructing minimum school facilities for the number of unhoused children; and

(ii) The amount the LEA has available or will have available for this purpose from other sources, including other Federal funds.

(b) If an LEA is eligible for a grant under section 14(b) of the Act, as described in § 221.28, the Secretary applies the provisions of paragraph (a) of this section, except that the only children the Secretary counts for payment are those who reside on Indian lands.

(c)(1) If an LEA is eligible for a grant under section 14 (a) or (b) of the Act as described in §§ 221.24 and 221.28 respectively, the Secretary may grant the LEA funds sufficient to—

(i) Construction consolidated school facilities in cases of consolidation of small school districts; or

(ii) Replace small, isolated, inadequate buildings.

(2) The Secretary may grant funds for a purpose stated in paragraph (c)(1) of this section even though the LEA may have enough classroom space to house all of the children.

(20 U.S.C. 644)

§ 221.63 What assistance may the Secretary make available under section 8 of the Act?

(a)(1) If an LEA is eligible for a grant under section 8(1) of the Act because it is unable to finance the non-Federal share of a project under section 5 of the Act, as described in § 221.36, the Secretary may grant an amount that does not exceed the difference between—

(i) The cost of constructing, in the LEA's school district, minimum school facilities for the estimated membership in the district who—despite the full use of facilities available to the LEA—will lack minimum school facilities at the close of the second year following the increase period; and

(ii)(A) The amount the Secretary has approved as a grant for this purpose under section 5 of the Act; and

(B) The amount the LEA has available or will have available for this purpose from any other sources.

(2) In no case does the Secretary provide under paragraph (a) of this section an additional amount greater than the amount the Secretary has approved as a grant for this project under section 5 of the Act.

(3) In considering a request for assistance under paragraph (a) of this section, the Secretary uses the data included in the preapplication approved for this project under section 5 of the Act.

(b) If an LEA is eligible for a grant under section 8(2) of the Act because it has been prevented from completing a project by a flood, fire, or similar emergency, as described in § 221.38, the Secretary may grant an amount that does not exceed the difference between—

(1) The additional expenses caused by the emergency; and

(2) The amount the LEA has available or will have available for this purpose from other sources, including insurance payments.

(20 U.S.C. 634, 638, 639, 644)

§ 221.64 In what order does the Secretary fund applications?

(a)(1) In the case of a group of applications under sections 5, 8(l), and 14(c) of the Act (see § 221.50(b)), if the Secretary is unable to provide full funding of all applications in the group, the Secretary funds applications in the group in descending order of priority index until the Secretary is unable to provide full funding of the next ranked application in the group.

(2) However, if the next ranked application for which the Secretary is unable to provide full funding is an application under section 14(c) of the Act, the Secretary may provide partial funding of the application.

(b) In the case of a group of applications under section 9 of the Act or a group of applications under section 14 (a) and (b) of the Act (see § 221.50(a)(2)), if the Secretary is unable to provide full funding of all applications in the group, the Secretary partially or fully funds applications in the group in descending order of priority index until the Secretary is unable to provide what the Secretary regards as adequate funding of the next ranked application in the group.

(c) In the case of a group of requests under section 10 of the Act, the Secretary applies the procedures under § 221.94.

(d) If the Secretary partially funds an application in a given year, the Secretary, to the extent possible the next time funds are available, completes the funding of that application before funding any new applications within the same group.

(20 U.S.C. 632, 633, 636(b)(2)(c), 644 (e), (h))

§ 221.65 When may the Secretary make payments under the Act?

Except for projects under section 10 of the Act, after the Secretary has approved a grant award under the Act, the Secretary—

(a) Makes an initial payment of 10 percent of the approved estimated Federal share of the cost of the project; and

(b) May pay the remainder of the award in portions at various stages of the project.

(20 U.S.C. 637(a))

Subpart F—What Conditions Must Be Met by a Grantee?

§ 221.70 What activities by a grantee require prior approval by the Secretary?

(a) A grantee may issue invitations for bids or enter into contracts for construction of its project only after the Secretary has—

(1)(i) Approved all plans and pertinent specifications; and

(ii) Determined that these plans and specifications are educationally adequate for the purpose for which they are intended; and

(2) Approved all documents related to the bids or contracts.

(b) A grantee may issue invitations for bids or requests for proposals relating to equipment for the project only after the Secretary has approved a list of the equipment to be procured and a budget for this equipment.

(20 U.S.C. 636, 637, 642, 645(9))

§ 221.71 What provisions of the Indian Self-Determination and Education Assistance Act apply to the School Construction Program?

(a) Assistance under sections 14(a) and 14(b) of the Act is subject to the provisions of section 7(b) of the Indian Self-Determination and Education Assistance Act of 1975 (Pub. L. 93-638). That section requires that, to the greatest extent feasible, the recipient of any grant or contract awarded for the benefit of Indians—

(1) Give to Indians preferences and opportunities for training and employment in connection with the administration of the grant or contract; and

(2) Give to Indian organizations and to Indian-owned economic enterprises—as defined in section 3 of the Indian Financing Act of 1974—preference in the award of contracts and subcontracts at any level of the administration of the construction project.

(25 U.S.C. 450e(b), 1452(e))

(b) For purposes of this section, an "Indian" is a member of any Indian tribe, band, nation, or other organized group or community, including any Alaska Native village or regional or village corporation as defined in or established under the Alaska Native Claims Settlement Act (85 Stat. 688), that is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

(25 U.S.C. 450 (a), (b))

Subpart G—What Requirements Govern Administrative Hearings Under the School Construction Program?

§ 221.80 Under what circumstances may an LEA request an administrative hearing?

(a) An LEA may request an administrative hearing if—

(1) The Secretary notifies the LEA of the Secretary's intent to disapprove the LEA's preapplication or application in whole or in part; or

(2) After a grant has been made, the Secretary notifies the LEA of the Secretary's intent to withhold payments under the provisions of section 11(a) of the Act.

(b) In the case of an intent to withhold payments under section 11(a) of the Act, the Secretary may set a stated place and time for a hearing even if the LEA has not requested a hearing. (See 34 CFR 218.2(c).)

(20 U.S.C. 636(c), 641(a))

§ 221.81 How does an LEA request a hearing?

(a) Notwithstanding the possibility of a shorter time period stated in 34 CFR 218.2(c), within 60 days of receiving notification of the Secretary's intent to disapprove its preapplication or application or to withhold payments, an LEA may submit to the Secretary a written request for a hearing.

(b) In its request the LEA shall clearly state the issues of fact and of law to be considered at the hearing.

(c) The LEA shall send a copy of its request to its SEA when the LEA submits its request to the Secretary.

(20 U.S.C. 636(c), 641(b))

§ 221.82 How does the Secretary treat a reqeust for a hearing?

(a) After receiving an LEA's written request for a hearing, the Secretary follows the procedures in paragraph (b) or (c) of this section.

(b)(1) The Secretary may appoint a hearing officer and assign the hearing to this hearing officer.

(2)(i) In this case, the provisions of 34 CFR Part 218 (Hearings in Connection with School Construction and Financial Assistance in Federally Impacted Areas) govern this hearing.

(ii) As used in 34 CFR Part 218, the term "application" includes a preapplication.

(c)(1) The Secretary may assign a withholding hearing to the Department's Education Appeal Board.

(2) In this case, the Education Appeal Board's procedures for a withholding hearing (34 CFR Part 78) govern this hearing.

(20 U.S.C. 636(c), 641, 1234)

Subpart H—What Special Provisions Govern Assistance Under Section 10 of the Act?

§ 221.90 Under what circumstances does the Secretary make arrangements for the provision of minimum school facilities under section 10 of the Act?

(a) The Secretary makes arrangements for constructing, leasing, renovating, remodeling, rehabilitating, or otherwise providing minimum school facilities for the types of children described in § 221.92 under any of the following circumstances:

(1) The State or any political subdivision of the State is prohibited by law from spending its tax revenues to provide for the free public education of these children.

(2) The Secretary determines, after consultation with the appropriate SEA, that no LEA is able to provide for the suitable free public education of these children as the term "suitable" is defined in § 221.91.

(3) The special circumstances described in § 221.92(b) (1) and (2).

(b) For purposes of this subpart, the terms "constructing, leasing, renovating, remodeling, rehabilitating, or otherwise providing" include repair, removal of architectural barriers, prevention of deterioration, upkeep, maintenance, upgrading for purposes of curriculum or to meet the standards of minimum school facilities, and, under circumstances described in § 221.93(a)(2)(ii), improvements to a site.

(c) To the maximum extent practicable, the facilities for which the Secretary makes arrangements under section 10 of the Act in any State are comparable to minimum school facilities provided for children in comparable communities in that State.

(20 U.S.C. 640)

§ 221.91 What criteria does the Secretary use in determining whether a free public education is "suitable"?

The Secretary considers a free public education to be "suitable" if—

(a) The primary language of instruction is English;

(b) The distance between a pupil's home and the school facility the pupil attends or would attend is within the maximum commuting distance established by the State; and

(c)(1) The programs of instruction offered or that can be offered meet standards for State accreditation or approval.

(2) If the State does not have standards for accreditation or approval, the Secretary applies standards established by an appropriate accreditation association.

(20 U.S.C. 640)

§ 221.92 For what types of children does the Secretary make arrangements for the provision of facilities under section 10?

(a) The Secretary makes arrangements for the provision of facilities under section 10 of the Act for the number of children—

(1) Who, the Secretary estimates in any fiscal year, will reside on Federal property at the end of the next fiscal year; and

(2) For whom minimum school facilities are unavailable because of the circumstances described in § 221.90(a)(1) or (2).

(b) The Secretary may make arrangements for the provision of facilities under section 10 of the Act for the following:

(1) Children who do not reside on Federal property, if—

(i) The children reside with a parent employed by the United States;

(ii) The minimum school facilities the Secretary provides are situated on Federal property in Puerto Rico, Wake Island, Guam, American Samoa, the Northern Mariana Islands, or the Virgin Islands; and

(iii) The Secretary, after consultation with the appropriate SEA, determines that—

(A) The construction or provision of the facilities is appropriate to carry out the purposes of the Act;

(B) No LEA is able to provide minimum school facilities for the suitable free public education of these children; and

(C) English is not the primary language of instruction in schools in the locality.

(2) Children of members of the Armed Forces—Army, Navy, Air Force, Marine Corps, Coast Guard—on active duty, if—

(i) The schools in which free public education is usually provided for these children are made unavailable to the children because of official action by State or local governmental authority; and

(ii) The Secretary, after consultation with the appropriate SEA, determines that no LEA is able to provide a suitable free public education for these children.

(c) *Ineligible children.* The Secretary does not make arrangements for the provision of facilities under section 10 for the following:

(1) Children who reside on Federal property formerly under the control of the Atomic Energy Commission and now under the control of the Department of Energy.

(2) Indian children attending federally operated Indian schools.

(20 U.S.C. 640)

§ 221.93 For what types of projects may the Secretary provide assistance under section 10?

(a) The types of projects for which the Secretary may provide assistance under section 10 of the Act during any given year include, but are not restricted to, one or more of the following:

(1)(i) Emergency repairs to existing facilities for which the Secretary is responsible under section 10 of the Act.

(ii) As used in paragraph (a)(1)(i) of this section, the term "emergency repairs" means those repairs necessary—

(A) For the safety of persons using the facilities;

(B) For the removal of architectural barriers to the handicapped; or

(C) For the prevention of further deterioration of the facilities.

(2)(i) Non-emergency upkeep and maintenance of existing facilities for which the Secretary is responsible under section 10 of the Act.

(ii) As used in paragraph (a)(2)(i) of this section, upkeep and maintenance may include site improvements.

(3) Upgrading of existing facilities for which the Secretary is responsible under section of the Act, if the purpose of the upgrading is to—

(i) Improve curriculum; or

(ii) Improve facilities to meet the standards of minimum school facilities.

(4) Provision of temporary facilities on Federal property pending—

(i) Emergency repairs; or

(ii) Construction of new minimum school facilities needed as a result of flood, fire, or other emergency.

(5) Construction of new minimum school facilities.

(b)(1) In the case of assistance for any type of project described in paragraphs (a) (1), (2), (3), and (4) of this section, the Secretary—

(i) Determines the extent to which assistance is needed and the urgency with which the assistance is needed; and

(ii) If necessary, notifies any other agency that might be affected by the determination.

(2) The Secretary makes these determinations, also, in the case of assistance for a project described in paragraph (a)(5) of this section if the need for the project results from a flood, fire, or other emergency.

(c) Except in cases of projects needed as a result of a flood, fire, or other emergency, if the Secretary in any given year decides to fund requests for assistance for the construction of new minimum school facilities, the Secretary announces the closing dates for the submissions of requests in a notice published in the Federal Register.

(20 U.S.C. 640)

§ 221.94 How does the Secretary compute priority indices and rank requests for new facilities under section 10?

(a) The provisions of this section apply if, in any given year, the Secretary—

(1) Decides to fund requests for assistance under section 10 of the Act for the construction of new minimum school facilities, except for replacement facilities needed as a result of a flood, fire, or other emergency; and

(2) Is unable to provide full funding of all requests.

(b) The Secretary—

(1) Computes or assigns a priority index for each request for construction according to—

(i) The applicable provisions of § 221.50; and

(ii) The provisions of this § 221.94; and

(2) Ranks each request in descending order of priority starting from the highest index.

(c) The numbers of children the Secretary uses in computing the priority index are the estimated numbers as of the end of the next fiscal year.

(d) The steps the Secretary uses in computing the priority index are as follows:

(1) *Step. 1* The Secretary divides—

(i) The number of children to be housed in the school facilities described in the request; by

(ii) The total number of children who both reside on and attend school on the Federal property.

(2) *Step 2.* (i) The Secretarty divides—

(A) The number of unhoused children; by

(B) The total number of children who both reside on and attend school on the Federal property.

(ii) The Secretary limits the result of Step 2 to a number that does not exceed the result of Step 1. The Secretary does this to ensure that a priority index is not

distorted by large numbers of unhoused children who would not be accommodated by the facilities described in the request.

(3) *Step 3.* The Secretary adds—

(i) The result of Step 1; to

(ii) The result of Step 2.

(4) *Step 4.* The Secretary multiplies the result of Step 3 by 100.

(e) If two or more requests have identical indices, the Secretary ranks these requests in decending order of subpriority indices computed according to the following steps:

(1) *Step 1.* The Secretary divides—

(i) The number of children to be housed in the school facilities described in the request; by

(ii) The total number of children who both reside on and attend school on the Federal property.

(2) *Step 2.* The Secretary multiplies the result of Step #1 by 100.

(20 U.S.C. 640)

§ 221.95 What terms and conditions apply to minimum school facilities operated under section 10 by another agency?

If the Secretary makes arrangements for the provision of minimum school facilities under section 10 of the Act, the Secretary—

(a) Arranges for the operation of the facilities by an agency other than the Department;

(b) Establishes terms and conditions for the operation of the facilities; and

(c) May require the operating agency to submit assurances and enter into other agreements that the Secretary specifies.

(20 U.S.C. 640)

§ 221.96 What terms and conditions apply to the transfer of minimum school facilities by the Secretary to an LEA?

If the Secretary decides to transfer to an LEA facilities that have been used to carry out the purposes of section 10 of the Act and for which the Secretary is responsible, the Secretary establishes the terms and conditions for the transfer.

(20 U.S.C. 640)

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